



Test Report issued under the responsibility of:



TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report Number.	31581397.020
Date of issue	May 4, 2018
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Applicant's name	Channel Well Technology Co., Ltd.
Address	No. 222, Sec. 2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855 Taiwan
Test specification:	
Standard	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No.	IEC60950_1F
Test Report Form(s) Originator	SGS Fimko Ltd
Master TRF	Dated 2014-02
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Test item description	AC Adaptor
Trade Mark	 1).  2).  NETGEAR® D-Link® 3).
Manufacturer	Same as applicant
Model/Type reference	1a). KPL-xy (x = 040, 050, 060, 065; y = F, G, V, H, I, W, J, K, L, N, Q, R, M) 1b). KPL-xy (x = 048, 066; y = F) 1c). KPL-xy-VI or KPL-xy-II or KPL-xy-KV(x = 030, 040, 048, 050, 060, 065, 066; Y = F, G, V, H, I, W, J, K, L, N, Q, R, M, A, S, T, P, U) 1d). GTRxxxYzzzzz (xxx=038, Y=2, z = 0-9, A-Z, "-" or blank) 2). GPA-XX-YY (XX = 40, 48, 50, 60, 65, 66; YY=12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 48) 3a). 2ABFxxxYzzzzz (xxx = 036, 048, 060, 065; Y = F, R; z = 0-9, A-Z, "-" or blank) 3b). 2ACLxxxYzzzzz (xxx = 025, 030, 050, 060, 065, 068 ; Y = B, K, M, R, S, U; z = 0-9, A-Z, "-" or blank)
Ratings	AC input: please refer to model list table for details DC output: please refer to model list table for details

Model List Table:

1a). KPL-xy

- x represents the output wattage; x = 040, 050, 060, 065
- y represents the output voltage; y = F, G, V, H, I, W, J, K, L, N, Q, R, M

1b). KPL-xy

- x represents the output wattage; x = 048, 066
- y represents the output voltage; y = F

1c). KPL-xy-VI or KPL-xy-II or KPL-xy-KV

- x represents the output wattage; x = 030, 040, 048, 050, 060, 065, 066
- y represents the output voltage; y = F, G, V, H, I, W, J, K, L, N, Q, R, M, A, S, T, P, U

x = O/P Wattage (W)	y = O/P Voltage	DC Output Voltage (V)	AC Input Voltage (VAC)	AC Input Current (A)	AC Input Frequency (Hz)
040, 048, 050, 060, 065, 066	F	12	100-240	1.7	50/60
040, 050, 060	G	13	100-240	1.7	50/60
040, 050, 060	V	14	100-240	1.7	50/60
040, 050, 060	H	15	100-240	1.7	50/60
040, 050, 060	I	16	100-240	1.7	50/60
040, 050, 060	W	17	100-240	1.7	50/60
040, 050, 065	J	18	100-240	1.7	50/60
040, 050, 060, 065	K	19	100-240	1.7	50/60
040, 050, 065	L	20	100-240	1.7	50/60
040, 050, 065	N	21	100-240	1.7	50/60
040, 050, 065	Q	22	100-240	1.7	50/60
040, 050, 065	R	23	100-240	1.7	50/60
040, 050, 060, 065	M	24	100-240	1.7	50/60
040, 050, 060, 065	A	36	100-240	1.7	50/60
030, 050, 060, 065	S	48	100-240	1.7	50/60
030, 050, 060, 065	T	52	100-240	1.7	50/60
030, 050, 060, 065	P	54	100-240	1.7	50/60
030, 050, 060, 065	U	56	100-240	1.7	50/60

O/P Voltage (y =)	O/P Voltage (V)	DC Output Current @ O/P Wattage 30W	DC Output Current @ O/P Wattage 40W	DC Output Current @ O/P Wattage 48W	DC Output Current @ O/P Wattage 50W	DC Output Current @ O/P Wattage 60W	DC Output Current @ O/P Wattage 65W	DC Output Current @ O/P Wattage 66W
F	12	---	3.33	4.00	4.17	5.00	5.42	5.50
G	13	---	3.08	---	3.85	4.62	---	---
V	14	---	2.86	---	3.57	4.29	---	---
H	15	---	2.67	---	3.33	4.00	---	---
I	16	---	2.50	---	3.13	3.75	---	---
W	17	---	2.35	---	2.94	3.53	---	---
J	18	---	2.22	---	2.78	---	3.61	---
K	19	---	2.11	---	2.63	3.16	3.42	---
L	20	---	2.00	---	2.50	---	3.25	---
N	21	---	1.90	---	2.38	---	3.10	---
Q	22	---	1.82	---	2.27	---	2.95	---
R	23	---	1.74	---	2.17	---	2.83	---
M	24	---	1.67	---	2.08	2.50	2.71	---
A	36	---	1.11	---	1.39	1.67	1.81	---
S	48	0.63	---	---	1.04	1.25	1.35	---
T	52	0.58	---	---	0.96	1.15	1.25	---
P	54	0.56	---	---	0.93	1.11	1.20	---
U	56	0.54	---	---	0.89	1.07	1.16	---

1d). GTRxxxYzzzzz

- xxx represents the output wattage, xxx = 038
- Y represents the output voltage. Y=2, means two groups of output voltage.
- z represents the different customers. z = 0-9, A-Z, "-" or blank

xxx = O/P Wattage (W)	AC Input Voltage (VAC)	AC Input Current (A)	AC Input Frequency (Hz)
038	100-240	1.2	50/60

O/P Voltage (Y=)	O/P Voltage (V)	O/P Current (A)	O/P Wattage (W)
2	5.2	3.8	38
	12	1.5	

3a). 2ABFxxxYzzzzz

- xxx represents the output wattage, xxx = 036, 048, 060, 065
- Y represents the output voltage. Y = F, R
- z represents the different customers. z = 0-9, A-Z, "-" or blank

3b). 2ACLxxxYzzzzz

- xxx represents the output wattage. xxx = 025, 030, 050, 060, 065
- Y represents the output voltage. Y = B, K, M, R, S, U
- z represents the different customers. z = 0-9, A-Z, "-" or blank

For 2ABF series

xxx = O/P Wattage (W)	Y = O/P Voltage	DC Output Voltage (V)	AC Input Voltage (VAC)	AC Input Current (A)	AC Input Frequency (Hz)
036, 048, 060, 065	F	12	100-240	1.7	50/60
060	R	48	100-240	1.7	50/60

O/P Voltage (Y =)	O/P Voltage (V)	DC Output Current @ O/P Wattage 36W	DC Output Current @ O/P Wattage 48W	DC Output Current @ O/P Wattage 50W	DC Output Current @ O/P Wattage 60W	DC Output Current @ O/P Wattage 65W	DC Output Current @ O/P Wattage 66W
F	12	3.00	4.00	---	5.00	5.40	---
R	48	---	---	---	1.25	---	---

For 2ACL series

xxx = O/P Wattage (W)	Y = O/P Voltage	DC Output Voltage (V)	AC Input Voltage (VAC)	AC Input Current (A)	AC Input Frequency (Hz)
025, 030	B	5	100-240	1.7	50/60
060	K	19	100-240	1.7	50/60
060	M	24	100-240	1.7	50/60
060, 065	R	48	100-240	1.7	50/60
060, 065, 068	S	54	100-240	1.7	50/60
050, 060, 065	U	56	100-240	1.7	50/60

O/P Voltage (Y =)	O/P Voltage (V)	DC Output Current @ O/P Wattage 25W	DC Output Current @ O/P Wattage 30W	DC Output Current @ O/P Wattage 50W	DC Output Current @ O/P Wattage 60W	DC Output Current @ O/P Wattage 65W	DC Output Current @ O/P Wattage 68W
B	5	5	6	---	---	---	---
K	19	---	---	---	3.16	---	---
M	24	---	---	---	2.50	---	---
R	48	---	---	---	1.25	1.35	---
S	54	---	---	---	1.10	1.20	1.25
U	56	---	---	0.90	1.07	1.16	---

Note:

1a). KPL-xy (for x=040, 050, 060, 065; y= F, G, V, H, I, W, J, K, L, N, Q, R, M)

- i. PCB with fuse: FUSE1 (Efficiency Level V)
- ii. Working Ambient Temperature: 40°C
- iii. Efficiency Level V

1b). KPL-xy (for x=48, 66; y=F)

- i. PCB with fuses: F1 and F2
- ii. Working Ambient Temperature: 45°C for x= 048 and y= F
- iii. Working Ambient Temperature: 40°C for x= 066 and y= F
- iv. (Efficiency Level VI)

1c). KPL-xy-VI or KPL-xy-II or KPL-xy-KV (for x=030, 040, 048, 050, 060, 065, 066; y = F, G, V, H, I, W, J, K, L, N, Q, R, M, A, S, T, P, U)

- i. PCB with fuses: F1 and F2
- ii. Working Ambient Temperature: 45°C for x= 030, 040, 048, 050, 060 and y= all
- iii. Working Ambient Temperature: 40°C for x= 065, 066 and y= all
- iv. (Efficiency Level VI)

1d). GTR-xxxxzzzz

- i. Working Ambient Temperature: 40°C
- ii. Efficiency Level VI

3a). 2ABFxxxYzzzzz

- i. Working Ambient Temperature: 40°C
- ii. Efficiency Level VI

3b). 2ACLxxxYzzzzz

- i. Working Ambient Temperature: 40°C for xxx = 050, 060, 065, **068** and Y = K, M, R, S, U
- ii. Working Ambient Temperature: 50°C for xxx = 025, 030 and Y = B
- iii. Efficiency Level VI

Model List Table:**2). GPA-XX-YY**

- XX represents the output wattage; XX = 40, 48, 50, 60, 65, 66
- YY represents the output voltage; YY = 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 48

XX = O/P Wattage (W)	YY = DC O/P Voltage (V)	AC Input Voltage (VAC)	AC Input Current (A)	AC Input Frequency (Hz)
40, 48, 50, 60, 65, 66	12	100-240	1.7	50/60
40, 50, 60	13	100-240	1.7	50/60
40, 50, 60	14	100-240	1.7	50/60
40, 50, 60	15	100-240	1.7	50/60
40, 50, 60	16	100-240	1.7	50/60
40, 50, 60	17	100-240	1.7	50/60
40, 50, 65	18	100-240	1.7	50/60
40, 50, 60, 65	19	100-240	1.7	50/60
40, 50, 65	20	100-240	1.7	50/60
40, 50, 65	21	100-240	1.7	50/60
40, 50, 65	22	100-240	1.7	50/60
40, 50, 65	23	100-240	1.7	50/60
40, 50, 60, 65	24	100-240	1.7	50/60
50, 60, 65	48	100-240	1.7	50/60

O/P Voltage (V)	DC Output Voltage @ O/P Wattage 40W	DC Output Current @ O/P Wattage 40W	DC Output Current @ O/P Wattage 48W	DC Output Current @ O/P Wattage 50W	DC Output Current @ O/P Wattage 60W	DC Output Current @ O/P Wattage 65W
12	3.33	4.00	4.17	5.00	5.42	5.50
13	3.08	---	3.85	4.62	---	---
14	2.86	---	3.57	4.29	---	---
15	2.67	---	3.33	4.00	---	---
16	2.50	---	3.13	3.75	---	---
17	2.35	---	2.94	3.53	---	---
18	2.22	---	2.78	---	3.61	---
19	2.11	---	2.63	3.16	3.42	---
20	2.00	---	2.50	---	3.25	---
21	1.90	---	2.38	---	3.10	---
22	1.82	---	2.27	---	2.95	---
23	1.74	---	2.17	---	2.83	---
24	1.67	---	2.08	2.50	2.71	---
48	---	---	1.04	1.25	1.35	---

Note:

- GPA-XX-YY
 - PCB with fuses: F1 and F2
 - Working Ambient Temperature: 45°C for XX= 40, 48, 50, 60 and YY= all
 - Working Ambient Temperature: 40°C for XX= 65, 66 and YY= all
 - Efficiency Level VI
 - GPA-XX-YY is identical with KPL-xy-VI

Testing procedure and testing location:		
☐	CB Testing Laboratory:	
Testing location/ address		
☐	Associated CB Testing Laboratory:	
Testing location/ address		
Tested by (name + signature).....		
Approved by (name + signature).....		
☒	Testing procedure: TMP/CTF Stage 1:	Channel Well Technologies (USA), Inc.
Testing location/ address		21068 Commerce Pointe Dr., Walnut, CA 91789
Tested by (name + signature).....		Rahul Mehta
Approved by (name + signature).....		Jameel Armstrong
☐	Testing procedure: WMT/CTF Stage 2:	
Testing location/ address		
Tested by (name + signature).....		
Witnessed by (name + signature)		
Approved by (name + signature).....		
☐	Testing procedure: SMT/CTF Stage 3 or 4:	
Testing location/ address		
Tested by (name + signature).....		
Witnessed by (name + signature)		
Approved by (name + signature).....		
Supervised by (name + signature)		

List of Attachments (including a total number of pages in each attachment):

Attachment 1 – National Differences (51 pages)
 Attachment 2 – Photos (26 pages)
 Attachment 3 – Transformer specification (40 pages)
 Attachment 4 – Schematic diagram (7 pages)
 Attachment 5 – PCB Artwork (9 pages)
 Attachment 6 – Mechanical drawings (25 pages)
 Attachment 7 – CB Certificate (3 pages)

Summary of testing:**31581397.001**

1. Evaluation and test data was taken from the TÜV Rheinland (Shanghai) CB report 15077081 001 for model KPL-xy series which meet the energy efficiency level V. This report also covers the evaluation and testing of an alternate PCB construction (PCB with fuses: F1 and F2) for model KPL-xy and KPL-xy-VI which meet the energy efficiency level VI. The Model List Table explains the differences PCB constructions.

31581397.010

1. Evaluation and test data was taken from the TÜV Rheinland Taiwan, Taichung Laboratory's CB report 11040445.001 for 2ABFxxxYzzzzz. This report also covers the evaluation and testing of the following alternate constructions:

- The size of heatsink (HS2 for 2ABF) can be either length=70mm (existing) or length=20mm.
- Adding new model, 2ABFxxxYzzzzz; where xxx= 036, and Y=F.
- Adding new model, 2ACLxxxYzzzzz; where xxx= 050, 060, 065, and Y=K, M, R, S, U.

2. Alternate construction of models, KPL-xy/KPL-xy-VI (PCB with fuses: F1 and F2)

- CY2 (optional) was added in series with CY1 cross over between primary GND and secondary GND. Please refer to the clause 1.5.1, the attachment of Photos, and the attachment of Circuit Diagram in details.

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Amendment 1 to report 31581397.010 covers addition of new model, GTRxxxYzzzzz and alternate components. Refer to the related clauses mentioned in the following table for tests were performed.

31581397.014

Amendment 2 to report 31581397.010 covers the addition of new model variation in the following series:

- KPL-xy-VI; where y=S, x=030; and y=U, x=030, 050, 060, 065
- 2ACLxxxYzzzzz; where xxx = 025, 030, y = B

31581397.016

Amendment 3 to report 31581397.010 covers the evaluation/testing for the addition of new model variation and alternate construction in the KPL series:

- KPL-xy-VI also named KPL-xy-II or KPL-xy-KV
- KPL-xy-VI; where y=A, x=040, 050, 060, 065; and y=T, P, x=030, 050, 060, 065
- TVS2, TVS3, and TVS4 were added as an optional items
- The connection between Earth GND and Secondary GND was changed to be optional.
- Fuse, F1, could be T6.3AL/250Vac [existing] or T8.0AL/250Vac [new added]
- EMI inductor, LF2, could be T10*6*5+C [existing] or T12.7*7.9*5C [new added].
- T1 (PQ-2620-36) was added for y=A (36V).

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New CB report covers the followings:

- The addition of new model, 2ACLxxxYzzzzz; where xxx= 068, and Y= S.
- The discharge resistors, R2A and R4A, were added as an optional items (refer to circuit diagram in details) for 2ACL series
- The inductor, L1, was added as an optional item items (refer to circuit diagram in details) for 2ACL series
- The Fuse, F3, was added as an optional items (refer to circuit diagram in details) for 2ACLxxxYzzzzz (Y= R, S, U)

Please refer to the related clauses mentioned in the following table for any models and tests added.

Tests performed (name of test and test clause):		Testing location:
<u>15077081.001</u>		TÜV Rheinland (Shanghai) Co., Ltd. B1-13/F, No.177, Lane 777, West Guangzhong Road, Zhabei District, Shanghai 200072, P.R. China
1.6.2	Input current	
1.7.11	Durability	
2.1.1.1	Access of energized parts	
2.1.1.5	Energy hazards	
2.1.1.7	Discharge of capacitors in equipment	
2.2.2	Voltages under normal conditions	
2.2.3	Voltages under fault conditions	
2.4.2	Limit values – Limited current circuits	
2.5	Limited power source	
2.6.3.4	Resistance of earthing conductors	
2.9.2	Humidity conditioning – Electrical	
2.10.2	Determination of working voltage	
2.10.5.10	Thin sheet material – alternative test	
3.1.9	Termination of conductors	
4.2.2	Steady force test, 10N	
4.2.4	Steady force test, 250N	
4.2.5	Impact test	
4.2.6	Drop test	
4.2.7	Stress relief test	
4.5.2	Temperature test	
5.1.6	Touch current and protective	
5.2	Electric strength	
5.3	Abnormal operating and fault	
Annex C	Transformers	
<u>31581397.001</u>		TUV Rheinland of North America, Inc. 1279 Quarry Lane, Ste. A, Pleasanton, CA 94566 USA
1.6.2	Input current	
2.1.1.1	Access of energized parts	
2.1.1.5	Energy hazards	
2.1.1.7	Discharge of capacitors in equipment	
2.2.2	Voltages under normal conditions	
2.2.3	Voltages under fault conditions	
2.4.2	Limit values – Limited current circuits	
2.5	Limited power source	
2.6.3.4	Resistance of earthing conductors	
2.9.2	Humidity conditioning – Electrical	
2.10.2	Determination of working voltage	
2.10.5.10	Thin sheet material – alternative test	
3.1.9	Termination of conductors	
4.2.2	Steady force test, 10N	
4.5.2	Temperature test	
5.1.6	Touch current and protective	
5.2	Electric strength	
5.3	Abnormal operating and fault	
Annex C	Transformers	

31581397.003

No Testing

31581397.005

No Testing

31581397.007

No Testing

11040445.001

1.6.2	Input current
1.7.11	Durability
2.1.1.1	Access of energized parts
2.1.1.5	Energy hazards
2.1.1.7	Discharge of capacitors in equipment
2.2.2	Voltages under normal conditions
2.2.3	Voltages under fault conditions
2.4.2	Limit values – Limited current circuits
2.5	Limited power source
2.6.3.4	Resistance of earthing conductors
2.9.2	Humidity conditioning – Electrical
2.10.2	Determination of working voltage
2.10.5.10	Thin sheet material – alternative test
3.1.9	Termination of conductors
4.2.2	Steady force test, 10N
4.2.4	Steady force test, 250N
4.2.5	Impact test
4.2.6	Drop test
4.2.7	Stress relief test
4.5.2	Temperature test
5.1.6	Touch current and protective
5.2	Electric strength
5.3	Abnormal operating and fault
Annex C	Transformers

TUV Rheinland Taiwan Ltd., Taichung
 Laboratory
 No. 9, Ln. 36, Sec. 3, Minsheng Rd., Daya
 District, Taichung City 428, Taiwan

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1.6.2	Input current
2.1.1.1	Access of energized parts
2.1.1.5	Energy hazards
2.1.1.7	Discharge of capacitors in equipment
2.2.2	Voltages under normal conditions
2.2.3	Voltages under fault conditions
2.4.2	Limit values – Limited current circuits
2.5	Limited power source
2.6.3.4	Resistance of earthing conductors
2.9.2	Humidity conditioning – Electrical
2.10.2	Determination of working voltage
2.10.5.10	Thin sheet material – alternative test
3.1.9	Termination of conductors
4.2.2	Steady force test, 10N
4.5.2	Temperature test
5.1.6	Touch current and protective
5.2	Electric strength
5.3	Abnormal operating and fault
Annex C	Transformers

TÜV Rheinland of North America, Inc.
1279 Quarry Lane, Ste. A, Pleasanton, CA
94566 USA

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1.6.2	Input current
2.1.1.1	Access of energized parts
2.1.1.5	Energy hazards
2.1.1.7	Discharge of capacitors in equipment
2.2.2	Voltages under normal conditions
2.2.3	Voltages under fault conditions
2.4.2	Limit values – Limited current circuits
2.5	Limited power source
2.6.3.4	Resistance of earthing conductors
2.9.2	Humidity conditioning – Electrical
2.10.2	Determination of working voltage
2.10.5.10	Thin sheet material – alternative test
3.1.9	Termination of conductors
4.2.2	Steady force test, 10N
4.2.4	Steady force test, 250N
4.2.5	Impact test
4.2.6	Drop test
4.2.7	Stress relief test
4.5.2	Temperature test
5.1.6	Touch current and protective
5.2	Electric strength
5.3	Abnormal operating and fault
Annex C	Transformers

TÜV Rheinland of North America, Inc.
1279 Quarry Lane, Ste. A, Pleasanton, CA
94566 USA

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1.6.2	Input current
2.1.1.5	Energy hazards
2.1.1.7	Discharge of capacitors in equipment
2.2.2	Voltages under normal conditions
2.2.3	Voltages under fault conditions
2.5	Limited power source
2.10.2	Determination of working voltage
2.10.3	Clearance measurement
2.10.4	Creepage distance measurement
4.5.2	Temperature test
5.2	Electric strength
5.3	Abnormal operating and fault
Annex C	Transformers

TÜV Rheinland of North America, Inc.
1279 Quarry Lane, Ste. A, Pleasanton, CA
94566 USA

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1.6.2	Input current
2.1.1.5	Energy hazards
2.1.1.7	Discharge of capacitors in equipment
2.2.2	Voltages under normal conditions
2.2.3	Voltages under fault conditions
2.5	Limited power source
2.6.3.4	Resistance of earthing conductors
2.10.2	Determination of working voltage
4.5.2	Temperature test
5.1.6	Touch current and protective
5.2	Electric strength
5.3	Abnormal operating and fault
Annex C	Transformers

TÜV Rheinland of North America, Inc.
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94566 USA

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1.6.2	Input current
2.1.1.5	Energy hazards
2.1.1.7	Discharge of capacitors in
2.2.2	Voltages under normal conditions
2.2.3	Voltages under fault conditions
2.5	Limited power source
2.10.2	Determination of working voltage
4.5.2	Temperature test
5.3	Abnormal operating and fault

Channel Well Technologies (USA), Inc.
21068 Commerce Pointe Drive, Walnut
CA 91789, USA

Summary of compliance with National Differences:

Summary of compliance with National Differences to IEC 60950-1:2005+A1:2009+A2:2013 (for explanation of codes see below):

List of countries addressed: AT, DK, IT, SE, GB, US, CA

Explanation of used codes: AT = Austria, DK = Denmark, IT = Italy, SE = Sweden, GB = United Kingdom, US = USA, CA = Canada

Summary of compliance with National Differences to IEC 60950-1:2005+A1:2009 (for explanation of codes see below):

List of countries addressed: KR, FI

Explanation of used codes: KR= Republic of Korea, FI = Finland

Summary of compliance with National Differences to IEC 60950-1:2005 (for explanation of codes see below):

List of countries addressed: AU, IL, CN

Explanation of used codes: AU= Australia, IL = Israel, CN=China

Summary of compliance with National Differences to IEC 60950-1:2001 (for explanation of codes see below):

List of countries addressed: JP

Explanation of used codes: JP= Japan

Summary of compliance with National Differences to IEC 60950(3rd ed.):1999 (for explanation of codes See below):

List of countries addressed: UA

Explanation of used codes: UA=Ukraine

Summary of compliance with National Differences to IEC 60950(ed.2):1991 + am1-am4 (for explanation of codes see below):

List of countries addressed: SG

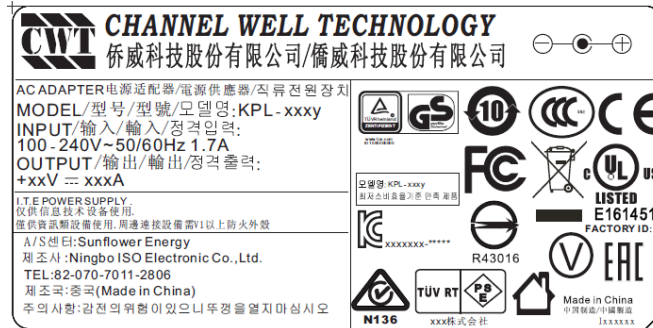
Explanation of used codes: SG=Singapore

All country differences listed in the CB Bulletin are covered by common Modifications, Special National Conditions, National Deviations and National Requirements noted follows except for the following countries which are documented in Country Differences.

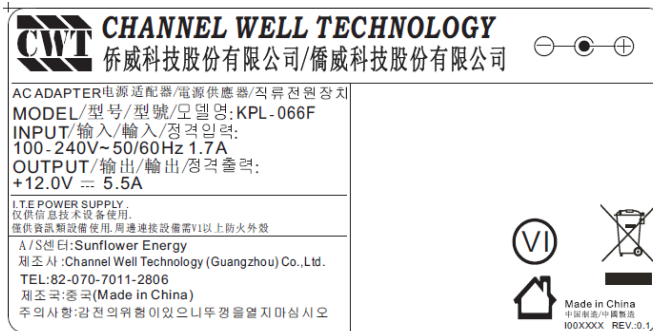
☒ The product fulfils the requirements of IEC 60950-1:2005 + Am 1:2009 + Am 2:2013 and EN60950-1:2006+A11+A1+A12+A2

Copy of marking plate:

The marking plate of KPL-xy (Efficiency Level V)



The marking plate of KPL-xy (Efficiency Level VI)



The marking plate of KPL-xy-VI (Efficiency Level VI)



The marking plate of GPA-XX-YY (Efficiency Level VI)



Copy of marking plate:

The marking plate of 2ABFxxxYzzzzz



The marking plate of 2ABFxxxYzzzzz



The marking plate of 2ABFxxxYzzzzz



Copy of marking plate:

The marking plate of 2ACLxxxYzzzzz



The marking plate of 2ACLxxxYzzzzz

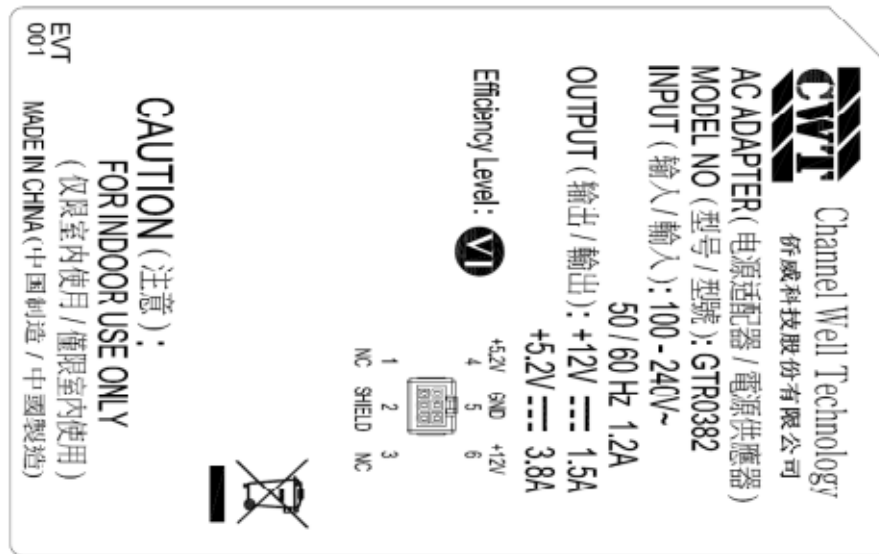


The marking plate of 2ACLxxxYzzzzz



Copy of marking plate:

The marking plate of GTRxxxYzzzzz



Test item particulars..... :	
Equipment mobility.....:	☒ movable ☐ hand-held ☒ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains.....:	☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☒ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition.....:	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values	±10%
Tested for IT power systems	☒ Yes ☐ No
IT testing, phase-phase voltage (V)	
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A)	16 (20 for US/CSA)
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	IPX0 for indoor use only
Altitude during operation (m)	5000m
Altitude of test laboratory (m)	Sea level
Mass of equipment (kg)	Approx. 0.24Kg for KPL O/P: 25-50W models Approx. 0.27Kg for KPL O/P: 60-66W models Approx. 0.25Kg for 2ABF and 2ACL models Approx. 0.31Kg for GTR models

Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing	

Date of receipt of test item.....: December 30, 2014 (1507708.001) April 16, 2015 (31581397.001) N/A (31581397.003) N/A (31581397.005) N/A (31581397.007) March 02, 2015 (11040445.001) March 17, 2016 (31581397.010) May 26, 2016 (31581397.012) August 15, 2016 (31581397.014) July 07, 2017 (31581397.016) March 20, 2018 (31581397.020)	
Date (s) of performance of tests December 30, 2014 (15077081.001) April 16, 2015 – May 19, 2015 (31581397.001) N/A (31581397.003) N/A (31581397.005) N/A (31581397.007) March 02, 2015 to March 22, 2015 (11040445.001) March 17, 2016 to March 28, 2016 (31581397.010) May 26, 2016 to June 06, 2016 (31581397.012) August 15 to August 24, 2016 (31581397.014) July 07 to July 20, 2017 (31581397.016) March 20 to April 22, 2018 (31581397.020)	
General remarks: "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. "(See Attachment #)" refers to additional information appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60950:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the Product from each factory has been provided :	☐ Yes ☒ Not applicable
When differences exist; they shall be identified in the General product information section.	

Name and address of factory (ies)..... : Channel Well Technology (Guangzhou) Co., Ltd.
 Bld. B, Eastern Hi-Tech Industrial Base, Zengjiang
 Street, Zengcheng, Guangzhou, Guangdong
 511300, P.R. China

General product information:

Product Description:

- The EUTs are desktop type, switching mode, AC input adaptor for the use in information technology equipment.
- All models are similar except for the type designation, output rating, different transformer (T1):
 PQ-2620-12 or PQ-2620-12-VI applied for KPL series with output voltage 12V to 16V.
 PQ-2620-17 applied for KPL series with output voltage 17V to 24V.
 PQ-2620-36 applied for KPL series with output voltage 36V
 PQ-2620-48 applied for KPL series with output voltage 48V to 56V.
 PQ2620-12 applied for 2ABF series with output voltage 12V.
 PQ2620-19 applied for 2ACL series with output voltage 19V and 24V.
 PQ2620-48 applied for 2ABF and 2ACL series with output voltage 48V, 54V, and 56V.
 RM10-12 applied to GTR series with output voltage 12V (DC-DC converter provided to create 5.2V output which was powered by 12V).
 and also the rating of components for different output voltage and wattage.
- The Adaptor's bottom enclosure is secured to top enclosure by ultrasonic welding for KPL and GTR series.
- The Adaptor's bottom enclosure is secured to top enclosure by screw for 2ABF and 2ACL series.
- CX1: Max. 0.47uF for GTR and 2ACLxxxB; Max. 0.33uF for 2ABF, KPL and 2ACLxxxY (except Y=B).
- CY1 and CY2: Max. 2200pF for KPL (with F1 and F2), and CY1: Max. 3300pF for KPL (with FUSE1), 2ABF, 2ACL, and GTR.
- For KPL series, new model (KPL-xy-VI) with 48V output (50W, 60W and 65W), and 12V output (48W and 66W) were added. PCB was modified to include two fuses (F1 and F2). When TVS1 is not present, F1 (6.3A/250V) will be replaced by a jumper wire.
- For KPL series (PCB with fuses: F1 and F2), CY2 (optional) was added in series with CY1 cross over between primary GND and secondary GND. Please refer to the clause 1.5.1, the attachment of Photos, and the attachment of Circuit Diagram in details.
- For 2ABF and 2ACL series, If F2 (optional) is not present, the value of F1 will be T3.15A/250V.
- For 2ABF and 2ACL series, TH1 (Max. 5Ω at 25°C, min. 3A) and Gas Tube, SA1/SA2, (Min. 200V) were added as optional items.
- For GTR series, F1 = 3.15A

Unless otherwise specified, throughout this report, the tests were performed on selected models under the ambient temperature at around +25 °C and on an open bench table:

T1 (PQ-2620-12-VI): KPL-066F (highest output current), KPL-060I (highest output voltage).

T1 (PS-2620-17): KPL-065J (highest output current), KPL-065M (highest output voltage).

T1 (PQ-2620-36): KPL-065A-VI (highest output current and voltage).

T1 (PQ-2620-48): KPL-065S, KPL-065U-VI (highest output current and voltage).

T1 (PQ2620-12): 2ABF065F (highest output current and voltage).

T1 (PQ2620-19): 2ACL060K (highest output current), 2ACL060M (highest output voltage).

T1 (PQ2620-48): 2ACL065R (highest output current), 2ACL065U (highest output voltage).

T1 (PQ2620-05): 2ACL030B (highest output current and voltage)

- The altitude during operation is 5000 meter.
- Working Ambient Temperature: please refer to the Model List Table in details.
- The Product under test was loaded to the maximum of the rated output for the worst working condition.
- The Product under test was pre-production samples without serial number assigned.
- Evaluation and test data was taken from the CB report# 15077081 001 and 11040445.001.

Engineering Considerations:

- The model, KPL-xy (PCB with fuse: FUSE1), was submitted and tested for use at maximum ambient temperature (Tma): 40°C.
- The model, KPL-xy and KPL-xy-VI (PCB with fuses: F1 and F2), was submitted and tested for use at maximum ambient temperature (Tma): 45°C for x= 40, 48, 50, 60 and y= all; 40°C for x= 65, 66 and y= all.
- The model, 2ABFxxxYzzzzz and 2ACLxxxYzzzzz, was submitted and tested for use at maximum ambient temperature (Tma): 40°C (except Y=B) and 50°C (Y=B).
- The model, GTRxxxYzzzzz, was submitted and tested for use at maximum ambient temperature (Tma): 40°C.
- The means of connection to the mains supply is Pluggable Type A.
- The Product is intended for use in the following power systems: TN/IT (for Norway).
- The Product disconnect device is considered to be: appliance inlet.
- The following transformers are provided (see subclause 1.5.4):
- Double/Reinforced insulation: T1.
- The following capacitors bridging insulation (see subclause 1.5.6):
- Double/Reinforced insulation: CY1.
- Across mains conductors: CX1.
- Functional insulation: other than above mentioned.
- The following resistors bridging insulation (see subclause 1.5.7):
- Across mains conductors: R2, R3, R4, and R5 for KPL-xy and KPL-xy-VI.
- Across mains conductors: R14 and R21 for 2ABFxxxYzzzzz.
- Across mains conductors: R2 and R4 for 2ACLxxxYzzzzz and GTRxxxYzzzzz.
- Functional insulation: other than above mentioned.
- The following solid insulation are provided (see subclause 2.10.5)
- Reinforced insulation: Enclosure, IC1, and Insulation sheet between secondary EMI shielding and PCB solder side (For KPL-xy / PCB with fuse: FUSE1).
- Reinforced insulation: Enclosure, and IC1 (For KPL-xy and KPL-xy-VI / PCB with fuse: F1 and F2).
- Basic insulation: Insulation sheet between the EMI shielding and PCB solder side (For KPL-xy / PCB with fuse: FUSE1).
- The following parts consist of the protective earthing (see subclause 2.6):
- Protective bonding conductor: AC inlet.

- The following parts are protective earthing terminals (see subclause 2.6.4):
- Earth pin of Inlet.
- The following parts are protective bonding terminals (see subclause 2.6.4):
- Solder PIN of the EMI shielding plate (For KPL-xy / PCB with fuse: FUSE1).

Additional Information:

- The label in copy of marking plate is a draft of an artwork pending approval by National Certification bodies and it shall not be affixed to the product prior to such approval.
- Some components are pre-certified, which have been evaluated according to the relevant requirements of IEC 60950-1, are employed in this product. Their suitability of use has been checked according to subclause 1.5.1 and 1.5.2.

Marking and Instructions:

- Fuse identification (subclause 1.7.6): FUSE1=T4.0AL/250V (KPL / PCB with fuse: FUSE1).
- Fuse identification (subclause 1.7.6): F1=T6.3AL or T8AL/250V, F2=3.15AL/250V (KPL / PCB with fuses: F1 and F2).
- Fuse identification (subclause 1.7.6): F1=T3.15A or T6.3A/250V, F2=3.15A/250V or NC (2ABF and 2ACL).
- Fuse identification (subclause 1.7.6): F1=T3.15A (GTR).

Definition of Variable(s):

KPL-xy/KPL-xy-VI (x can be 030, 040, 048, 050, 060, 065, or 066 to represent the output wattage; y can be F, G, V, H, I, W, J, K, L, N, Q, R, M, A, S, T, P or U to represent the output voltage).

Variable	Range of variable	Content
x	030, 040, 048, 050, 060, 065, 066	030=30W, 040=40W, 048=48W, 050=50W, 060=60W, 065=65W, 066=66W
y	F, G, V, H, I, W, J, K, L, N, Q, R, M, A, S, T, P, U	F=12V, G=13V, V=14V, H=15V, I=16V, W=17V, J=18V, K=19V, L=20V, N=21V, Q=22V, R=23V, M=24V, A=36V, S=48V, T=52V, P=54V, U=56V

2ABFxxxYzzzzz and 2ACLxxxYzzzzz (xxx can be 025, 030, 036, 048, 050, 060, 065 or **068** to represent the output wattage; Y can be B, F, K, M, R, S, or U to represent the output voltage)

Variable	Range of variable	Content
x	025, 030, 036, 048, 050, 060, 065, 068	025=25W, 030=30W, 036=36W, 048=48W, 050=50W, 060=60W, 065=65W, 068=68W
y	B, F, K, M, R, S, U	B=5V, F=12V, K=19V, M=24V, R=48V, S=54V, U=56V

GTRxxxYzzzzz (xxx can be 038 to represent the output wattage; Y can be 2 to represent the output voltages)

Variable	Range of variable	Content
x	038	038=38W
y	2	2= 12V, 5.2V output

Report History:

31581397.001

Original CB report

31581397.003

This report is the second amendment to the original CB report 31581397.001. This report also covers the following:

- Addition of the Model List Table for model GPA-XX-YY.
- Changing the model variables from 'GPA-XX-YY (XX = 040, 048, 050, 060, 065, 066; YY = F, G, V, H, I, W, J, K, L, N, Q, R, M, S)' to 'GPA-XX-YY (XX = 40, 48, 50, 60, 65, 66; YY=12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 24, 48).
- Administrative corrections to the critical components list.

31581397.005

This report is the second amendment to the original CB report 31581397.003. This report also covers the following:

- Addition of the marking nameplate for model GPA-XX-YY.
- Correction of the Model List Table 'Note' information for Model KPL-xy-VI to include 'x=48 and x=66) in the 'x' nomenclature.
- Administrative corrections to the critical components list.

31581397.007

This is a new report that covers the addition of alternate models VEFxUSy-z and VECxUSy-z. Models VEFxUSy-z and VECxUSy-z are identical with KPL-xy and KPL-xy-VI. VEFxUSy-z and VECxUSy-z are also the model names for the new trademark XP Power.

31581397.010

This is a new report that covers the following:

- Addition of new models 2ABFxxxYzzzzz, 2ACLxxxYzzzzz and new trademarks, Netgear and D-Link.
- Removal of models VEFxUSy-z, VECxUSy-z and trademark XP Power.
- Alternate construction to model 2ABF: the size of heatsink (HS2) will be either length= 70mm (existing) or length= 20mm.
- Alternate construction to model KPL-xy/KPL-xy-VI (PCB with fuses: F1/F2): CY2 (optional) was added in series with CY1 cross over between primary GND and secondary GND.
- Addition of the following National Differences:
 - Finland; Australia; Israel; Japan; Ukraine; Singapore

31581397.012

Amendment 1 to report 31581397.010 covers addition of new models GTRxxxYzzzzz and alternate components. There are two output voltages for Y=2: 12V and 5.2V. 5.2V was powered by 12V (DC-DC converter provided).

31581397.014

Amendment 2 to report 31581397.010 covers:

1. The addition of new model variation in the following series:
 - KPL-xy-VI; where y=S, x=030; and y=U, x=030, 050, 060, 065
 - 2ACLxxxYzzzzz; where xxx = 025, 030, y = B
2. Update critical components list to accommodate new models as follows:
 - Current rating change for MOSFET from min. 8A to min. 6A which covers the rating for 2ACLxxxBzzzzz; where xxx=025, 030.
 - Rating for Electrolytic Capacitors rating from 82-150uF to 68-150uF which covers the rating for 2ACLxxxBzzzzz; where xxx=025, 030.
 - Addition of transformer, PQ2620-05.
3. Peak Working Voltage for transformer PQ-2620-48 changed from 510V to 544V which covers worst case happened to 2ACL030Bzzzzz.

31581397.016

Amendment 3 to report 31581397.010 covers:

1. the addition of new model variation in the KPL series:
 - KPL-xy-VI also named KPL-xy-II or KPL-xy-KV

- KPL-xy-VI; where y=A, x=040, 050, 060, 065; and y=T, P, x=030, 050, 060, 065
2. The alternate construction in the KPL series:
- TVS2, TVS3, and TVS4 were added as an optional items
 - The connection between Earth GND and Secondary GND was changed to be optional.
 - Fuse, F1, could be T6.3AL/250Vac [existing] or T8.0AL/250Vac [new added].
 - EMI inductor, LF2, could be T10*6*5+C [existing] or T12.7*7.9*5C [new added].
 - T1 (PQ-2620-36) was added for y=A (36V).
3. The critical components list has been updated to accommodate new models and alternate construction; refer to table 1.5.1: List of critical components in details.

31581397.020

This is a new report that covers the following:

- The addition of new model, 2ACLxxxYzzzzz; where xxx= 068, and Y= S.
- The discharge resistors, R2A and R4A, were added as an optional items (refer to circuit diagram in details) for 2ACL series
- The inductor, L1, was added as an optional item items (refer to circuit diagram in details) for 2ACL series
- The Fuse, F3, was added as an optional items (refer to circuit diagram in details) for 2ACLxxxYzzzzz (Y= R, S, U)

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General	See below	P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components	All safety critical components are certified. All components are used within their specified rating, plastic materials, PCBs and wiring materials are UL listed, non-certified components were tested according to this standard.	P
1.5.3	Thermal controls		N/A
1.5.4	Transformers	Transformers complied with the relevant requirements	P
1.5.5	Interconnecting cables	Interconnection cables comply with the relevant requirements	P
1.5.6	Capacitors bridging insulation	Capacitors used in accordance with their rating and complied with subclasses of IEC 60384-14 with at least 21 days damp heat test. The accessible circuit complied with the requirement of Limited Current Circuit in 2.4 after electric strength testing of the insulation with the bridging capacitors in place.	P
1.5.7	Resistors bridging insulation	See below	P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	Resistors bridging functional insulation only.	P
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems	See appended table 1.5.1.	P
1.5.9	Surge suppressors	See below	P
1.5.9.1	General	Approved varistor (optional) comply with Annex Q used in primary circuit.	P
1.5.9.2	Protection of VDRs	A fuse is connected in series with the VDR	P
1.5.9.3	Bridging of functional insulation by a VDR	Approved varistor locate between mains lines	P
1.5.9.4	Bridging of basic insulation by a VDR		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
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1.6	Power interface		P
1.6.1	AC power distribution systems	Considered	P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor	The neutral is not identified in the product. Basic insulation for rated voltage between earthd parts and primary phases.	P

1.7	Marking and instructions		P
1.7.1	Power rating and identification markings	The power rating marking is provided and is readily visible in operator access area.	P
1.7.1.1	Power rating marking	See copy of marking plate.	P
	Multiple mains supply connections.....:	Only mains supply connection provided.	N/A
	Rated voltage(s) or voltage range(s) (V)	See copy of marking plate.	P
	Symbol for nature of supply, for d.c. only	Mains from AC source.	N/A
	Rated frequency or rated frequency range (Hz) ...:	See copy of marking plate.	P
	Rated current (mA or A)	See copy of marking plate.	P
1.7.1.2	Identification markings	See below.	P
	Manufacturer's name or trade-mark or identification mark	See copy of marking plate.	P
	Model identification or type reference	See copy of marking plate.	P
	Symbol for Class II equipment only		N/A
	Other markings and symbols	Other markings and symbols do not give rise to misunderstanding.	P
1.7.1.3	Use of graphical symbols	Graphical symbols placed on the equipment in accordance with IEC 60417.	P
1.7.2	Safety instructions and marking	See below.	P
1.7.2.1	General	User's manual is available.	P
1.7.2.2	Disconnect devices		P
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT power distribution systems	See General product information – Engineering considerations	P
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment		N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	See General product information -Markings and Instructions	P
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals		N/A
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators	LED used for indicator function only.	P
1.7.8.1	Identification, location and marking		N/A
1.7.8.2	Colours	Green	P
1.7.8.3	Symbols according to IEC 60417.....		N/A
1.7.8.4	Markings using figures		N/A
1.7.9	Isolation of multiple power sources		N/A
1.7.10	Thermostats and other regulating devices		N/A
1.7.11	Durability	The marking plate has no curling and is not able to be removed easily.	P
1.7.12	Removable parts	The required marking is not placed on removable parts. Misleading is not likely.	P
1.7.13	Replaceable batteries		N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations.....		N/A
2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	See below.	P
2.1.1.1	Access to energized parts	Compliance of protection against contact with hazardous energized parts checked.	P
	Test by inspection	Complied.	P
	Test with test finger (Figure 2A)	See above.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Test with test pin (Figure 2B)	See above.	P
	Test with test probe (Figure 2C)	No TNV circuits provided.	N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V_{peak} or V_{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards	(see appended tables 2.1.1.5)	P
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment	See below.	P
	Measured voltage (V); time-constant (s)	see appended table 2.1.1.7	—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply .:		N/A
	b) Internal battery connected to the d.c. mains supply :		N/A
2.1.1.9	Audio amplifiers		N/A
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A

2.2	SELV circuits		P
2.2.1	General requirements	See below	P
2.2.2	Voltages under normal conditions (V)	(see appended table 2.2)	P
2.2.3	Voltages under fault conditions (V)	(see appended table 2.2)	P
2.2.4	Connection of SELV circuits to other circuits	Complied with 2.2.2 and 2.2.3 (See also 1.5.7, 2.3.2.1 b) and 2.4.3).	P

2.3	TNV circuits		N/A
2.3.1	Limits	No TNV circuits	N/A
	Type of TNV circuits		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed.....	No TNV circuits	—

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Clause	Requirement + Test	Result - Remark	Verdict

2.3.4	Connection of TNV circuits to other circuits	No TNV circuits	N/A
	Insulation employed..... :		—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		P
2.4.1	General requirements	The limits of 2.4.2 were not exceeded under normal operating condition. No single fault necessary.	P
2.4.2	Limit values	See below.	P
	Frequency (Hz)..... :	(see appended table 2.4.2)	—
	Measured current (mA)..... :	(see appended table 2.4.2)	—
	Measured voltage (V) :	(see appended table 2.4.2)	—
	Measured circuit capacitance (nF or μ F)..... :	(see appended table 2.4.2)	—
2.4.3	Connection of limited current circuits to other circuits	The limits of 2.4.2 were not exceeded.	P

2.5	Limited power sources		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition	(see appended table 2.5)	P
	Use of integrated circuit (IC) current limiters	(See Annex CC)	P
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)..... :	(see appended table 2.5)	—
	Current rating of overcurrent protective device (A) .:		—

2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	The PE pin of inlet connected to PCB board by solder reliably. EMI shielding connect to PCB board (Protective bonding) reliably (for KPL: PCB with FUSE1 only).	P
2.6.2	Functional earthing	Secondary functional earthing is separated to primary by reinforced or double insulation and protective bonding conductor. No green/yellow wire used at secondary.	P
	Use of symbol for functional earthing		N/A

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2.6.3	Protective earthing and protective bonding conductors	See below.	P
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm ²), AWG :		—
2.6.3.3	Size of protective bonding conductors	Complied with the minimum sizes in table 3B. See 2.6.3.4	P
	Rated current (A), cross-sectional area (mm ²), AWG :		—
	Protective current rating (A), cross-sectional area (mm ²), AWG :		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)..... :	(see appended table 2.6.3.4)	P
2.6.3.5	Colour of insulation :	Green-and yellow	P
2.6.4	Terminals	See below.	P
2.6.4.1	General	Appliance inlet used, which is considered as protective earthing terminal.	P
2.6.4.2	Protective earthing and bonding terminals		P
	Rated current (A), type, nominal thread diameter (mm) :		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	The protective bonding conductor is connected to the approved appliance inlet.	P
2.6.5	Integrity of protective earthing	See below.	P
2.6.5.1	Interconnection of equipment	This unit has it own earthing connection. Any other units connected via the DC output connector shall provide SELV only.	P
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switch or overcurrent protective device in protective earthing or bonding conductor.	P
2.6.5.3	Disconnection of protective earth	It is not possible to disconnect earth without disconnecting mains as an appliance inlet is used.	P
2.6.5.4	Parts that can be removed by an operator	Appliance coupler used.	P
2.6.5.5	Parts removed during servicing	Appliance coupler used.	P
2.6.5.6	Corrosion resistance	All part comprising the connections are plated and metal to metal which comply with annex J.	P
2.6.5.7	Screws for protective bonding		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
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2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	The equipment relies on fuse or circuit breaker of the wall outlet protection of the building installation in regard to L to N short-circuits. Over current protection is provided by the built-in current fuse.	P
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7	Considered.	P
2.7.3	Short-circuit backup protection	The building installation is considered as providing short-circuit backup protection.	P
2.7.4	Number and location of protective devices :	The protective device (KPL PCB with fuse: FUSE1), (KPL PCB with fuses: F2 and/or F1), (2ABF/2ACL: F1 and/or F2) (GTR: F1) is located adequately therefore able to interrupt the overcurrent flowing in any possible fault current path.	P
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel :		N/A

2.8	Safety interlocks		N/A
2.8.1	General principles	No Safety Interlocks	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) :		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.8.8	Mechanical actuators		N/A
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2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	P
2.9.2	Humidity conditioning	Tested for 120 hrs.	P
	Relative humidity (%), temperature (°C) :	95%, 40°C	—
2.9.3	Grade of insulation	Double, reinforced or functional insulation.	P
2.9.4	Separation from hazardous voltages	See below.	P
	Method(s) used :	Method 1.	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See below.	P
2.10.1.1	Frequency :	Considered.	P
2.10.1.2	Pollution degrees :	2	P
2.10.1.3	Reduced values for functional insulation	See 5.3.4.	P
2.10.1.4	Intervening unconnected conductive parts	Complied.	P
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	See below.	P
2.10.2.1	General	Considered.	P
2.10.2.2	RMS working voltage	(see appended table 2.10.2)	P
2.10.2.3	Peak working voltage	(see appended table 2.10.2)	P
2.10.3	Clearances	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.1	General	For altitude 5000 meter, per Table A.2 of IEC60664-1, factor 1.48 used for minimum spacing requirements.	P
2.10.3.2	Mains transient voltages	See below.	P
	a) AC mains supply :	2500Vpk considered.	P
	b) Earthed d.c. mains supplies :		N/A
	c) Unearthed d.c. mains supplies :		N/A
	d) Battery operation :		N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.4	Clearances in secondary circuits		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply		N/A
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	See below.	P
2.10.4.1	General	Considered.	P
2.10.4.2	Material group and comparative tracking index	Material group IIIb assumed.	P
	CTI tests	100	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation	Complied with 2.10.5.2.	P
2.10.5.1	General	See below.	P
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation	Complied with 2.10.5.2 and 2.10.10.	P
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints	(see appended table 2.10.3, 2.10.4, and appended table 1.5.1)	P
2.10.5.6	Thin sheet material – General	Considered.	P
2.10.5.7	Separable thin sheet material	Thin sheet material in form of polyester tape used on primary heat-sinks (KPL: PCB with FUSE1) and T1.	P
	Number of layers (pcs)	2 layers used.	—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure	Electric strength test applied to each layer.	P
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.11	Insulation in wound components	See below.	P
2.10.5.12	Wire in wound components	Reinforced insulation.	P
	Working voltage	(see appended table 2.10.2)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U	Complied with annex U.	P
	Two wires in contact inside wound component; angle between 45° and 90°	Insulating tape and tube provided.	P
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		P
	Working voltage	(see appended table 2.10.2)	P
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation	Complied with 2.10.5.6.	P
2.10.6	Construction of printed boards	See below.	P
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	P
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	Component external terminations	(see appended table 2.10.3 and 2.10.4)	P
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling	Certified photocoupler sources used. See appended table 1.5.1.	P
2.10.10	Test for Pollution Degree 1 environment and insulating compound	Certified photocoupler sources used. See appended table 1.5.1.	P
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts	Certified photocoupler sources used. See appended table 1.5.1.	P

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Clause	Requirement + Test	Result - Remark	Verdict

3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	Internal wires are UL recognized, PVC insulated, rated VW-1, 300 V, min. 80 °C, having gauge suitable for current intended to be carried. The internal wires are suitable to carry the intended current of the equipment.	P
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges and heatsinks which could damage the insulation and cause hazard.	P
3.1.3	Securing of internal wiring	The wires are secured by soldering with additional glue so that a loosening of the terminal connection is unlikely.	P
3.1.4	Insulation of conductors	The insulation of the individual conductors is suitable for the application and the working voltage. For the insulation materials see sub-clause 3.1.1.	P
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors	See below.	P
	10 N pull test	The clearance and creepage distances are not reduced under required in 2.10.	P
3.1.10	Sleeving on wiring		N/A

3.2	Connection to a mains supply		P
3.2.1	Means of connection		P
3.2.1.1	Connection to an a.c. mains supply		P
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) :		—

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.4	Appliance inlets	The appliance inlet complies with IEC 60320-1. The connector of the power cord can be inserted without difficulties and does not support the unit.	P
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage	No sharp points or cutting edges within or on the surface of the equipment or at the inlet opening or inlet bushing.	P
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		

3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	Not used	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²).....		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		P
3.4.1	General requirement	Disconnect device provided.	P

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.2	Disconnect devices	See General product information.	P
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized	When appliance inlet is disconnected no remaining parts with hazardous voltage in the equipment.	P
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment	The appliance inlet or power plug disconnects both poles simultaneously.	P
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment	Interconnection to other devices via SELV and LCC output only.	P
3.4.11	Multiple power sources		N/A

3.5	Interconnection of equipment		P
3.5.1	General requirements	Conformance to 2.2 is continued.	P
3.5.2	Types of interconnection circuits	Interconnection circuits of SELV, LCC through secondary output connector.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection circuit.	N/A
3.5.4	Data ports for additional equipment		N/A

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	Device mass is less than 7kg	N/A
	Test force (N)	Device is not floor-standing type	N/A

4.2	Mechanical strength		P
4.2.1	General	After the following tests, the sample continues to comply the relevant requirements.	P
	Rack-mounted equipment.	(see Annex DD)	N/A
4.2.2	Steady force test, 10 N	10 N applied to all components other than enclosure.	P
4.2.3	Steady force test, 30 N		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.4	Steady force test, 250 N	250 N applied to all shape and material of outer enclosure. No energy or other hazards. Force applied at: - side (near transformer) - side (near inlet) - side (near output cable)	P
4.2.5	Impact test		P
	Fall test	No hazard as result from steel ball fall test at all shape and material of external enclosure. Impact applied at: - side (near transformer) - side (near inlet) - side (near output cable)	P
	Swing test		P
4.2.6	Drop test; height (mm)	The EUT has been subjected to 3 drops from 1 m height on a hard wooden surface for all shape and material of enclosure. Impact applied at: - side (near transformer) - side (near inlet) - side (near output cable)	P
4.2.7	Stress relief test	Test performed for all shape and material of enclosure material at 100 °C for KPL, 91°C for 2ABF, 93°C for 2ACL; 98.7°C for GTR 7 hrs. No damage of the enclosure.	P
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N)		N/A

4.3	Design and construction		P
4.3.1	Edges and corners	All edges or corners accessible to operator are rounded and smoothed.	P
4.3.2	Handles and manual controls; force (N)		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts	No loosen.	P
4.3.5	Connection by plugs and sockets	No misconnection likely.	P
4.3.6	Direct plug-in equipment		N/A
	Torque		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Compliance with the relevant mains plug standard		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids		N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation	No radiation is generated inside the equipment. The energy of the indicator LED is far below the limit for Class 1 LED products.	P
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	The energy of the indicator LED is far below the limit for Class 1 LED products.	P
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)		—
4.3.13.6	Other types		N/A
4.4	Protection against hazardous moving parts		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.4.1	General	No hazardous moving parts	N/A
4.4.2	Protection in operator access areas		N/A
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General	No hazardous moving parts	N/A
	Not considered to cause pain or injury. a).....:		N/A
	Is considered to cause pain, not injury. b)		N/A
	Considered to cause injury. c)		N/A
4.4.5.2	Protection for users	No hazardous moving parts	N/A
	Use of symbol or warning		N/A
4.4.5.3	Protection for service persons	No hazardous moving parts	N/A
	Use of symbol or warning		N/A

4.5	Thermal requirements		P
4.5.1	General	No exceeding temperature.	P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L	(See Annex L)	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat	Phenolic type bobbin used in T1 which is accepted without test.	P

4.6	Openings in enclosures		P
4.6.1	Top and side openings	See below.	P
	Dimensions (mm)	No opening.	—
4.6.2	Bottoms of fire enclosures	See below.	P
	Construction of the bottom, dimensions (mm) ...:	No opening.	—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment	See below.	P
4.6.4.1	Constructional design measures		P
	Dimensions (mm)	No opening.	—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks).....:		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	See below.	P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	See below.	P
4.7.2.1	Parts requiring a fire enclosure	Following parts require a fire enclosure: • Components in primary circuits • Components having unenclosed arcing parts in circuit at hazardous voltage / energy level. • Insulating wiring. The fire enclosure is required.	P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General	Those components are mounted on V-1 or better material PCB and covered by fire enclosure.	P
4.7.3.2	Materials for fire enclosures	See appended table 1.5.1.	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	The material is made of V-2 or better material.	P
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	See sub-clauses 5.1.2 to 5.1.6.	P
5.1.2	Configuration of equipment under test (EUT)	See below.	P
5.1.2.1	Single connection to an a.c. mains supply	Single connection provided.	P
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Test circuit in Figure 5A used.	P
5.1.4	Application of measuring instrument	Measuring instruments as in annex D used.	P
5.1.5	Test procedure	(see appended table 5.1.6)	P
5.1.6	Test measurements	(see appended table 5.1.6)	P
	Supply voltage (V)	(see appended table 5.1.6)	—
	Measured touch current (mA)	(see appended table 5.1.6)	—
	Max. allowed touch current (mA)	(see appended table 5.1.6)	—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA)...		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	Table 5B used.	P

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors		N/A
5.3.3	Transformers	(see appended Annex C)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.4	Functional insulation.....:	Functional insulation complied with the requirements c).	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE		N/A
5.3.7	Simulation of faults	Complied.	P
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	See below.	P
5.3.9.1	During the tests	No fire propagated beyond the equipment, no molten metal and no deformation of enclosure.	P
5.3.9.2	After the tests	Electric strength test made.	P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	No TNV circuits	N/A
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N/A

6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements	No TNV circuits	N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A

6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)	No TNV circuits	—
	Current limiting method		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General	No cable distribution systems	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		P
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples..... :		—
	Wall thickness (mm) :		—
A.1.2	Conditioning of samples; temperature (°C) :		N/A
A.1.3	Mounting of samples :		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D :		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		P
A.2.1	Samples, material..... :		—
	Wall thickness (mm) :		—
A.2.2	Conditioning of samples; temperature (°C) :		N/A
A.2.3	Mounting of samples :		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C :		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements	No motors used	N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) :		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position :	Refer to appended table 1.5.1	—
	Manufacturer :	Refer to appended table 1.5.1	—
	Type :	Refer to appended table 1.5.1	—
	Rated values :	Refer to appended table 1.5.1	—
	Method of protection :	Overcurrent protection by circuit.	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended tables 5.2)	P
	Protection from displacement of windings..... :	(see appended tables C2)	P

D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument	Figure D.1 used.	P
D.2	Alternative measuring instrument		N/A

E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
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F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
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G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances	Alternative method not used	N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply :		N/A
G.2.2	Earthed d.c. mains supplies :		N/A
G.2.3	Unearthed d.c. mains supplies :		N/A
G.2.4	Battery operation :		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.3	Determination of telecommunication network transient voltage (V) :		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks :		N/A
G.4.2	Transients from telecommunication networks :		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances :		N/A
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used	Complied	—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

L.7	Other business equipment	See "Summary of testing".	P
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M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A

N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

P	ANNEX P, NORMATIVE REFERENCES		—
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Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	- Preferred climatic categories	(see appended table 1.5.1)	P
	- Maximum continuous voltage	(see appended table 1.5.1)	P
	- Combination pulse current	(see appended table 1.5.1)	P
	Body of the VDR Test according to IEC60695-11-5.....	Certified VDR used.	N/A
	Body of the VDR. Flammability class of material (min V-1).....	Certified VDR used.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A

S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			—

U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		Approved sources of winding material for T1 used. Details see table 1.5.1.	—

V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction	Considered	P
V.2	TN power distribution systems	Considered	P

W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A

Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
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AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
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BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
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CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		P
CC.1	General	Approved IC used. (see appended table 1.5.1)	P
CC.2	Test program 1.....		N/A
CC.3	Test program 2.....		N/A
CC.4	Test program 3.....		N/A
CC.5	Compliance.....		N/A

DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N.....		N/A
DD.3	Mechanical strength test, 250N, including end stops.....		N/A
DD.4	Compliance.....		N/A

EE	ANNEX EE, Household and home/office document/media shredders		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....		N/A
	Information of user instructions, maintenance and/or servicing instructions.....		N/A
EE.3	Inadvertent reactivation test.....		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....		N/A
EE.5	Protection against hazardous moving parts		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Test with test finger (Figure 2A)		N/A
	Test with wedge probe (Figure EE1 and EE2)		N/A

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
Plastic Enclosure	SABIC Innovative Plastics Japan LLC	SE1X	V-1 or better, 105°C, thickness 1.5mm min.	UL94	UL	
Alternative	Teijin Chemicals Plastic Compounds Shanghai Ltd	LN-1250G(#)(*)	V-0 or better, 115°C, thickness 1.5mm min.	UL94	UL	
Alternative	SABIC Innovative Plastics Japan LLC	940	V-0 or better, 120°C, thickness 1.5 mm min.	UL94	UL	
Alternative	Covestro Deutschland AG [PC Resins]	FR3010HF+	V-0 or better, 85°C, thickness 1.5 mm min.	UL94	UL	
Alternative	Teijin Limited Resin And Plastic	LN-1250G(#)(*)	V-0 or better, 120°C, thickness 1.5 mm min.	UL94	UL	
PCB	Walex Electronic (Wuxi) Co Ltd	T4	V-1 or better, min. 130°C	UL94, UL796	UL	
Alternative	Kingboard Laminates Holdings Ltd.	KB-5150	V-1 or better, min. 130°C	UL94, UL796	UL	
Alternative	Huizhou Times Dragon Technology Co., Ltd.	SDJL-1,SDJL-2	V-1 or better, min. 130°C	UL94, UL796	UL	
Alternative	Huizhou Hosond PCB Co., Ltd.	HSD-DS,HSD-ML	V-1 or better, min. 130°C	UL94, UL796	UL	
Alternative	NIPPON (BOLUO) Electronics	D2	V-1 or better, min. 130°C	UL94, UL796	UL	
Alternative	Dong Guan New Energy Printed Circuit Board	NE1000, NE2000, NE4000, NE5000, NE5000A	V-1 or better, min. 130°C	UL94, UL796	UL	
Alternative	Jia He Electronic	B1,D1	V-1 or better, min. 130°C	UL94, UL796	UL	
Alternative	Guangdong Chaohua Technology	C-104	V-1 or better, min. 130°C	UL94, UL796	UL	
Alternative	Suichuan The Speed of Light Electronics	GS-001,GS-002	V-1 or better, min. 130°C	UL94, UL796	UL	

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Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Meizhou Taihua Printed Circuit Board	TH-1,TH-2	V-1 or better, min. 130°C	UL94, UL796	UL
Alternative	Huizhou APL Electronic	APL-1,APL-2	V-1 or better, min. 130°C	UL94, UL796	UL
Alternative	Dongguan City Top Star Circuit	TS-01,TS-02	V-1 or better, min. 130°C	UL94, UL796	UL
Alternative	Cheung Hung Technology International	CH-D,CH-M	V-1 or better, min. 130°C	UL94, UL796	UL
Appliance Inlet (CON1)	Tecx-Unions Technology	TU-301-SP, TU-301-S	10 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Tecx-Unions Technology	TU-333	2.5 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Rong Feng Industrial	RF-190	2.5 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Rong Feng Industrial	SS-120,SS-7B SS-7B-1, SS-120-PCB	10 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Rich Bay	R-30790	2.5 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Rich Bay	R-301SN	10 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Zhe Jiang Bei Er Jia Electronic	ST-A01-003J, ST-A01 series	10 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Zhe Jiang Bei Er Jia Electronic	ST-A04-002	2.5 A, 250 Vac, 70°C	IEC/EN 60320-1+A1, ANSI/UL 498	VDE, UL
Alternative	Solteam Electronics	ST-01	10A, 250V(VDE) 15A, 250V(UL) 70°C	IEC 60320-1	VDE, UL
Alternative	Shengming Enterprise	S06-101-B01-2, S06-101-B01-2A,	7A, 250V 100°C	IEC 60320-1	UL,ENEC
Alternative	Shengming Enterprise	S14-101, S14-102, S14-201, S14-202, S14-203	10A, 250V 70°C	IEC 60320-1	VDE, UL
Fuse (Fuse1) (KPL PCB with Fuse1)	XC Electronics (Shenzhen)	4T	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	XC Electronics (Shenzhen)	5TE	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL

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Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Ever Island Electric and Walter Electric	2010	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Conquer Electronics	PTU	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Conquer Electronics	MST	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Littelfuse, Inc. Wickmann-Werke	392	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Walter Electronic	ICP	T4.0A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Fuse (F1) (Optional) (KPL PCB with F1,F2)	XC Electronics (Shenzhen) Corp. Ltd.	4T	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	XC Electronics (Shenzhen) Corp. Ltd.	5TE	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Ever Island Electric Co., Ltd. and Walter Electric	2010	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Conquer Electronics Co., Ltd.	PTU	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Conquer Electronics Co., Ltd.	MST	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Littelfuse, Inc. Wickmann-Werke	392	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Walter Electronic Co. Ltd.	ICP	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Dongguan Better Electronics Technology Co., Ltd	932	T6.3A or T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Fuse(F1) (2ABF, 2ACL)	Cooper Bussmann	SS-5	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Littelfuse Wickmann Werke	392	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Walter	2010	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL,VDE
Alternative	Conquer	MST	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Hollyland	5ET-SERIES	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Nippon	SLT	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Dongguan Better Electronics Technology Co., Ltd	932	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	XC Electronics (Shenzhen) Corp. Ltd.	5TE	T3.15A or T6.3A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Fuse(F1) (GTR)	Cooper Bussmann	SS-5	T3.15A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Littelfuse Wickmann Werke	392	T3.15A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Walter	2010	T3.15A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL,VDE
Alternative	Conquer	MST	T3.15A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Hollyland	5ET-SERIES	T3.15A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Nippon	SLT	T3.15A 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Dongguan Better Electronics Technology Co., Ltd	932	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Fuse (F2) (KPL PCB with F1,F2) (2ABF, 2ACL optional))	XC Electronics (Shenzhen)	4T, 3T	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	XC Electronics (Shenzhen)	5TE	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Ever Island Electric and Walter Electric	2010	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Conquer Electronics	PTU	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Conquer Electronics	MST	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Littelfuse, Inc. Wickmann-Werke	392	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Walter Electronic	ICP	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Littelfuse	677	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Bussman Fuse	SS-5	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Hollyland	5ET-SERIES	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	UL, VDE
Alternative	Dongguan Better Electronics Technology Co., Ltd	932	T3.15A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Fuse (F3) (2ACL, y=R,S,U [optional])	XC Electronics (Shenzhen)	4T	T1.6A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Walter Electronic	ICP	T1.6A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Conquer Electronics	PDU, PTU	T1.6A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Alternative	Littlefuse	677	T1.6A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, ANSI/UL 248-1, ANSI/UL 248-14	VDE, UL
Varistor (Optional) (TVS1,TVS2, TVS3: KPL, 2ACL,GTR) (ZNR1: 2ABF)	Thinking Electronic Industrial	TVR14471	Rated 300 Vac, 470 Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Alternative	Thinking Electronic Industrial	TVR14561	Rated 350 Vac, 560 Vac, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Alternative	Thinking Electronic Industrial	TVR14681	Rated 420 Vac, 680 Vac, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Alternative	Nanjing Jocol Electronics Technology	TUR14D471K, TUR10D561K	Rated 300 Vac, 470 Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Alternative	Nanjing Jocol Electronics Technology	TUR14D561, TUR10D561	Rated 350 Vac, 560 Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Alternative	Nanjing Jocol Electronics Technology	TUR14D681	Rated 420 Vac, 680 Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Alternative	Success Electronics	SVR14D471K SVR10D471K	Rated 300 Vac, 470 Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Alternative	Success Electronics	SVR14D561K SVR10D561K	Rated 350 Vac, 560 Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Alternative	Success Electronics	SVR14D681K	Rated 420 Vac, 680 Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Thinking Electronic Industrial	TVR10471-D, TVR14471-D	Rated 300Vac, 470Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	UL
Alternative	Thinking Electronic Industrial	TVR10561-D, TVR14561-D	Rated 350Vac, 560Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	UL
Alternative	Joyin	10N471K, 10S471K, 14N471K	Rated 300Vac, 470Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	UL
Alternative	Joyin	10N561K, 14N561K	Rated 350Vac, 560Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	UL
Alternative	Joyin	10S561K	Rated 350Vac, 560Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	UL
Alternative	Shantou High-New Zone Songtian Enterprise	14D471K, 10D471K	Rated 300 Vac, 470 Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Alternative	Shantou High-New Zone Songtian Enterprise	14D561K, 10D561K	Rated 350 Vac, 560 Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Alternative	Shantou High-New Zone Songtian Enterprise	14D681K, 10D681K	Rated 420 Vac, 680 Vdc, Max. 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, ANSI/UL 1449	VDE, UL
Varistor (Optional) (TVS4 for KPL PCB with F1, F2)	Littelfuse	CG33.0L+	Rated 380Vac, Max. 5000A, 85°C	ANSI/UL 1449	UL
X-Capacitor (CX1) (X1 or X2 type) (Optional)	Okaya Electric Industries	LE	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	ENEC, UL
Alternative	Jenn Fu Electronics	MPX	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Euoptronic (Taiwan) Ind.	MPX2, MPX	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Ultra Tech Xiphi Enterprise	HQX	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Hua Jung Components	MKP	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	ENEC, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Arcotronics Italia S.P.A	R.46	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	ENEC, UL
(Alternative)	Yimanfeng	MPX/MKP	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	ENEC, UL
(Alternative)	KEMET	R.46	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	ENEC, UL
(Alternative)	Okaya Electric Industries	RE ,LE	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	Pilkor Electronics	PCX2 337	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	Vishay Capacitors Belgium N V	F1772, F1774	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	Joey Electronics (Dong guan)	MPX	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	ARCO	R46	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	BC	MKP 336 1	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	CHENG TUNG	CTX	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	ISKRA	KMC 1540	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	KEMET	R49	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	OKAYA	XE	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	PILKOR	PCX1	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	VISHAY	VY1	Max. 0.47 uF, min. 250 Vac, 100°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	Shantou High-New Technology Development Zone songtian Enterprise	MPX	Max. 0.47 uF, min. 250 Vac, 100°C	IEC 60384-14:2005, UL 1414	VDE,UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Bleeder Resistor (R2,R3,R4,R5) (KPL PCB with FUSE1)	Tzaiyuan Enterprise Co., Ltd	SMD series	2.2MΩ 1/4 W	IEC 62368-1	CB
Alternative	Tai Electronic Co.,Ltd	SMD	2.2MΩ 1/4 W	IEC/EN 60950-1	Tested with appliance
Alternative	Giant Chip Technology Co., Ltd	SMD	2.2MΩ 1/4 W	IEC/EN 60950-1	Tested with appliance
Bleeder Resistor (R2,R3,R4,R5) (KPL PCB with F1, F2)	Tzaiyuan Enterprise Co., Ltd	SMD series	3.0MΩ or 3.9MΩ 1/4 W	IEC 62368-1	CB
Alternative	Tai Electronic Co.,Ltd	SMD	3.0MΩ or 3.9MΩ 1/4 W	IEC/EN 60950-1	Tested with appliance
Alternative	Giant Chip Technology Co., Ltd	SMD	3.0MΩ or 3.9MΩ 1/4 W	IEC/EN 60950-1	Tested with appliance
Bleeder Resistor (R14,R21: 2ABF) (R2,R4: GTR)	Tzaiyuan Enterprise	SMD series	1/4 W, 2ABF, 2ACL: Max. 1.5MΩ; GTR: 2 MΩ	IEC 62368-1	CB
Alternative	Tai Electronic	SMD	1/4 W, 2ABF, 2ACL: Max. 1.5MΩ; GTR: 2 MΩ	IEC/EN 60950-1	Test with appliance
Alternative	Giant Chip Technology	SMD	1/4 W, 2ABF, 2ACL: Max. 1.5MΩ; GTR: 2 MΩ	IEC/EN 60950-1	Test with appliance
Bleeder Resistor (R2, R4, R2A, R4A: 2ACL) (R2A,R4A optional)	Tzaiyuan Enterprise	SMD series	1/4 W, Max. 1.5MΩ without R2A,R4A; Max.2.2MΩ with R2A, R4A	IEC 62368-1	CB
Alternative	Tai Electronic	SMD	1/4 W, Max. 1.5MΩ without R2A,R4A; Max.2.2MΩ with R2A, R4A	IEC/EN 60950-1	Test with appliance
Alternative	Giant Chip Technology	SMD	1/4 W, Max. 1.5MΩ without R2A,R4A; Max.2.2MΩ with R2A, R4A	IEC/EN 60950-1	Test with appliance

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Bridging Capacitor (CY1 for 2ACL, 2ABF, GTR,KPL PCB with Fuse1) (CY1,CY2 for KPL PCB with F1, F2, CY2 Optional) (Y1 type)	TDK Corporation	CD	Max. 3300 pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Walsin Technology	AH	Max. 3300 pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Success Electronics Co., Ltd.	SB, SE	Max. 3300 pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Success Electronics Co., Ltd.	SE	Max. 3300 pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Xiangtai Electronics Co., Ltd.	YO	Max. 3300 pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	JYA-NAY Co., Ltd.	JN	Max. 3300 pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Murata MFG Co Ltd	KX	Max. 3300 pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
Alternative	Welson Industrial Co Ltd	WD	Max. 3300 pF, min. 250 Vac, 125°C	IEC/EN 60384-14: 2005, UL 1414	VDE, UL
(Alternative)	Shantou High-New Technology Development Zone songtian Enterprise	CD	Max. 3300 pF, min. 250 Vac, 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
Y-Capacitor (CY2,CY3) (GTR) (Optional) Y1 or Y2 type	Murata MFG	KX, KY, KH	Min. 250 V, Max. 3300 pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
(Alternative)	TDK-EPC	CD, CS	Min. 250 V, Max. 3300 pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
(Alternative)	Jya-Nay	JN	Min. 250 V, Max. 3300 pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
(Alternative)	Walsin Technology	AH, KL	Min. 250 V, Max. 3300 pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
(Alternative)	Success Electronics	SE, SB, SF	Min. 250 V, Max. 3300 pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
(Alternative)	Welson Industrial	WD, KL	Min. 250 V, Max. 3300 pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
(Alternative)	Shantou High-New Technology Development Zone songtian Enterprise	CE	Min. 250 V, Max. 3300 pF 125°C	IEC/EN 60384-14:2005,UL1414	UL, VDE
Bridge Diode (BD1) (KPL, GTR)	Zowie	GBL, GBU	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Shen zhenJU-Topvessel	GBL	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Diodes	KBP	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Liteon	GBL, KBP, GBU, GBJ	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Willas	GBL, KBP	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	SEP	GBU, KBJ, RS	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Panjit	GBL, GBU	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	TSC	UR	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Chongqing Pingwei Enterprise	GBL	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	HY	KBP	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Vishay	KBP	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	UPM	KBP	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	LH	KBP	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	PY	GBP	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Zhonghuan	T2K	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	HS	T2K	Min. 2 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Bridge diode (BD1) (2ABF, 2ACL)	Zowie	GBL, GBU	Min. 4 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Shen zhenJU-Topvessel	GBL	Min. 4 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Diodes	KBP	Min. 4 A, min. 600 V	IEC/EN 60950-1	Tested with appliance

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	Liteon	GBL, KBP, GBU, GBJ	Min. 4 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Willas	GBL	Min. 4 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	SEP	GBU, KBJ, RS	Min. 4 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Panjit	GBL, GBU	Min. 4 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	TSC	UR,GBL	Min. 4 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Lision	UR,GBL	Min. 4 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	HY	UR,GBL	Min. 4 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Chongqing Pingwei	UR,GBL	Min. 4 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Ripple Capacitor (C2) (KPL PCB with fuse: FUSE1)	Kuan kun Electronic enterprise	SK, SE	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	NCC	KMQ, SMQ, SMG, KMG, KXJ	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Man Yue Electronics	KM, RT	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Taiwan Chinsan Electronics	DW, DV	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Capxon	KM, KL	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Hunan Aihua Group	WH, RH	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Lelon Electronics	RGA, RXB, RXC, RXQ	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Taicon	AM, AS, AQ, BY, SD, SK	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Nichicon	CY, CS	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	ELITE	MV, DV	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	SUSCON	MF,HE, SE	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	SAMXON	RT	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	AISHI	HS	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Ripple Capacitor (C2) (KPL PCB with fuse: F1, F2)	Kuan kun Electronic enterprise	SK, SE	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	NCC	KMQ, SMQ SMG, KMG, KXJ	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Man Yue Electronics	KM, RT	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Taiwan Chinsan Electronics	DW, DV	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Capxon	KM, KL	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Hunan Aihua Group	WH, RH	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Lelon Electronics	RGA, RXB, RXC, RXQ	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Taicon	AM, AS, AQ, BY, SD, SK	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	Nichicon	CY, CS	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	ELITE	MV, DV	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	SUSCON	MF, HE, SE	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	SAMXON	RT	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Alternative	AISHI	HS	68-120 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Tested with appliance
Electrolytic Capacitors (C1: 2ABF) (C2: 2ACL, GTR)	Kuan kun Electronic	SK, SE	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance
Alternative	NCC	KMQ, KMG, KXJ	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	Man Yue Electronics	KM, RT	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance
Alternative	Taiwan Chinsan Electronics	DW, DV	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance
Alternative	Capxon	KM, KL	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance
Alternative	Hunan Aihua Group	WH, RH	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance
Alternative	Lelon Electronics	RGA, RXB, RXC, RXQ	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance
Alternative	Taicon	AM, AS, AQ, BY, SD, SK	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance
Alternative	Nichicon	CY, CS	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance
Alternative	ELITE	MV, DV	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance
Alternative	SUSCON	MF, HE, SE	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance
Alternative	SAMXON	RT	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance
Alternative	AISHI	HS	68-150 uF, min. 400 V, min. 105°C	IEC/EN 60950-1	Test with appliance
Transistor (Q1) (KPL)	WINSEMI Electronics	WFF	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	NEC	3SK, 2SK	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	ON Semiconductor	NDF,	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Fairchild	FQPF	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Toshiba Corporation Semiconductor	2SK, TK, K	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Unisonic Technologies	xN, x=8-20	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Miracle Technology	MPF,NPF,NPD	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Miracle Technology	MPF,NPF,NPD	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Magnachip semiconductor	MDF,MMFT	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	Alpha & Omega Semiconductor	AOTF	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	SILAN	SVD	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	SL	SVF, SVD	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	STMicroelectronics	STP	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
Alternative	Fairchild Semiconductor	FCP, FCPF, FDP, FDPF	Min. 4.5 A, min. 600 V	IEC/EN 60950-1	Tested with appliance
MOSFET (Q2: 2ABF) (Q1: 2ACL, GTR)	Infineon	IPA,IPP,SPA, SPP	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Hzngzhou Silan Microelectronic	SVF	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	STMicroelectronics	STF, STP	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Unisonic Technologies	xN, x=8-20	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Korea Electronics	KHB,KPS,KF	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	InPower Semiconductor	ITA,ISA,ITD	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Hi-Sincerity Microelectronic	H	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Wuxi China Resources Semico	CS	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Miracle Technology	MPF,NPF,NPD	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Toshiba Corporation	TK,2SK,T	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Taiwan Semiconductor	TSM	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	LiSion Technology	LS	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Magnachip semiconductor	MDF,MMFT	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Niko-Sem	PO	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Alpha & Omega Semiconductor	AOTF	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Fairchild Semiconductor	FCP, FCPF, FDP, FDPF	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Rohm Semiconductor (Taiwan)	R	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	International Rectifier	IRFP, IRFB	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Trinno Technology	TMPF	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	SILAN	SVD	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Toshiba	2SK	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	SL	SVF, SVD	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	Jiangsu Dongguan Micro- electronics	DG	Min. 6 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Alternative	CET-MOS Corporation	CEF	Min. 8 A, min. 600 V.	IEC/EN 60950-1	Test with appliance
Current Sensor Resistor (R9,R15,R16, R18,R23) (KPL PCB with FUSE1)	Tzaiyuan Enterprise Co., Ltd	SMD	Min. 1.8 Ω, min. 1/4 W	IEC/EN 60950-1	Tested with appliance
Alternative	Tai Electronic	SMD	Min. 1.8 Ω, min. 1/4 W	IEC/EN 60950-1	Tested with appliance
Alternative	Giant Chip Technology	SMD	Min. 1.8 Ω, min. 1/4 W	IEC/EN 60950-1	Tested with appliance
Current Sensor Resistor (R9,R15,R16, R18,R23) (KPL PCB with F1, F2)	Tzaiyuan Enterprise	SMD	Min. 1.5 Ω, min. 1/4 W	IEC/EN 60950-1	Tested with appliance
Alternative	Tai Electronic	SMD	Min. 1.5 Ω, min. 1/4 W	IEC/EN 60950-1	Tested with appliance
Alternative	Giant Chip Technology	SMD	Min. 1.5 Ω, min. 1/4 W	IEC/EN 60950-1	Tested with appliance
Current sense resistor (R34,R35,R36,R 37, R38: 2ABF) (R9,R15,R16, R18,R23: 2ACL)	Tzaiyuan Enterprise	SMD	Min. 1.2 Ω, min. 1/4 W	IEC/EN 60950-1	Test with appliance
Alternative	Tai Electronic	SMD	Min. 1.2 Ω, min. 1/4 W	IEC/EN 60950-1	Test with appliance
Alternative	Giant Chip Technology	SMD	Min. 1.2 Ω, min. 1/4 W	IEC/EN 60950-1	Test with appliance
Current Sensor Resistor (R9,R15,R16) (GTR)	Tzaiyuan Enterprise	SMD	Min. 1.4 Ω, min. 1/4 W	IEC/EN 60950-1	Test with appliance
Alternative	Tai Electronic	SMD	Min. 1.4 Ω, min. 1/4 W	IEC/EN 60950-1	Test with appliance
Alternative	Giant Chip Technology	SMD	Min. 1.4 Ω, min. 1/4 W	IEC/EN 60950-1	Test with appliance
Line Choke (LF1) (KPL) (Optional)	Sunycore Electronics	T18*10*7	130°C	IEC/EN 60950-1	Tested with appliance

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	Channel Well Technology	T18*10*7	130°C	IEC/EN 60950-1	Tested with appliance
Line Choke (LF1) (GTR) (Optional)	Channel Well Technology	T14*8*7	130°C	IEC/EN 60950-1	Tested with appliance
Line Choke (LF2: 2ABF) (LF1: 2ACL)	Channel Well Technology	T16*12*8	130°C	IEC/EN 60950-1	Tested with appliance
Line Choke (LF1: 2ABF) (LF2: 2ACL)	Channel Well Technology	T10*6*5	130°C	IEC/EN 60950-1	Tested with appliance
Line Choke (LF2) (KPL) (Optional)	Sunycore Electronics	T10*6*5+C, T12.7*7.9*5C	130°C	IEC/EN 60950-1	Tested with appliance
Alternative	Channel Well Technology	T10*6*5+C, T12.7*7.9*5C	130°C	IEC/EN 60950-1	Tested with appliance
Line Choke (LF2) (GTR) (Optional)	Channel Well Technology	T9*5*3	130°C	IEC/EN 60950-1	Tested with appliance
Transformer (T1) (O/P 12-16V) (KPL PCB with FUSE1)	Channel Well Technolog	PQ-2620-12	Class B (GH-130)	IEC/EN 60950-1	Tested with appliance
Transformer (T1) (O/P 12-16V) (KPL PCB with F1, F2)	Channel Well Technology	PQ-2620-12-VI	Class B (GH-130)	IEC/EN 60950-1	Tested with appliance
Transformer (T1) (O/P 36V) (KPL PCB with F1,F2)	Channel Well Technology	PQ-2620-36	Class B (GH-130)	IEC/EN 60950-1	Tested with appliance
Transformer (T1) (O/P 17-24V) (KPL)	Channel Well Technology	PQ-2620-17	Class B (GH-130)	IEC/EN 60950-1	Tested with appliance
Transformer (T1) (O/P 48-56V) (KPL)	Channel Well Technolog	PQ-2620-48	Class B (GH-130)	IEC/EN 60950-1	Tested with appliance
Bobbin	Chang Chun Palstics	T375J	Phenolics, 150°C, V-0	UL94	UL
Triple insulated wire	Great Leoflon Industria	TRW(B)	130°C	IEC/EN 60950-1, UL 2353	VDE, UL
Sleeving	Great Holding Industrial	TFL	200°C, VW-1	UL 224	UL
Transformer (T1) (2ACL, Y=B)	Channel Well Technology	PQ2620-05	Class B	Applicable parts in IEC 60950-1 and acc. To IEC 60085	Accepted by TUV Rheinland

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Transformer (T1) (2ABF, Y=F)	Channel Well Technology	PQ2620-12	Class B	Applicable parts in IEC 60950-1 and acc. To IEC 60085	Accepted by TUV Rheinland
Transformer (T1) (2ACL, Y=K,M)	Channel Well Technology	PQ2620-19	Class B	Applicable parts in IEC 60950-1 and acc. To IEC 60085	Accepted by TUV Rheinland
Transformer (T1) (2ACL, 2ABF, Y=R,S,U)	Channel Well Technology	PQ2620-48	Class B	Applicable parts in IEC 60950-1 and acc. To IEC 60085	Accepted by TUV Rheinland
Bobbin	Chang Chun Palstics	T375J	Phenolics, 150 °C, V-0	UL94	UL
Triple insulated wire	Great Leoflon Industrial	TRW(B)	130°C	IEC/EN 60950-1, UL 2353	VDE, UL
Sleeving	Great Holding Industrial	TFL	200°C, VW-1	UL 224	UL
Transformer (T1) (GTR)	Channel Well Technolog	RM10-12	Class B (GH-130)	IEC/EN 60950-1	Tested with appliance
-Bobbin	Chang Chun Palstics	T375J	Phenolics, 150°C, V-0	UL94	UL
-Triple insulated wire	Great Leoflon Industrial	TRW(B)	130°C	IEC/EN 60950-1, UL 2353	VDE, UL
Optocoupler (IC1: KPL, 2ACL,GTR) (U4: 2ABF)	Lite-On Technology	LTV-817, LTV-817S	Dti ≥ 0.4 mm, Int. cr > 4.0 mm, Ext. cr = 8.0mm, 110 °C	DIN EN 60747-5-2, IEC/EN 60950-1, UL 1577	VDE, Fimko, UL
Alternative	Cosmo Electronics	K1010	Dti = 0.5 mm, Int. cr = 5.3 mm, Ext. cr = 8.0mm, 110 °C	DIN EN 60747-5-2, IEC/EN 60950-1, UL 1577	VDE, Fimko, UL
Alternative	Toshiba Corp. Semiconductor	TLP781/TL781 F	Dti = 0.5 mm, Int. cr = 6.0 mm, Ext. cr = 7.7mm, 110 °C	DIN EN 60747-5-2, IEC/EN 60950-1, UL 1577	VDE, Fimko, UL
Alternative	Everlight Electronics	EL817	Dti = 0.5 mm, Int. cr = 6.0 mm, Ext. cr = 7.7mm, 110 °C	DIN EN 60747-5-2, IEC/EN 60950-1, UL 1577	VDE, Fimko, UL
Alternative	Fairchild Semiconductor	FOD817	Dti ≥ 0.4 mm, Int. cr ≥ 5.0 mm, Ext. cr ≥ 7.0mm, 110 °C	DIN EN 60747-5-2, IEC/EN 60950-1, UL 1577	VDE, Fimko, UL
Alternative	Sharp Corp Electronic Components And Devices Group	PC817	Dti = 0,7 mm, Int. cr = 5,0 mm, Ext. cr =8,0mm. 110□	DIN EN 60747-5-2, IEC/EN 60950-1, UL 1577	VDE, UL
Alternative	Sharp Corp Electronic Components And Devices Group	PC123	Dti = 0,7 mm, Int. cr = 5,0 mm, Ext. cr =8,0mm. 110□	DIN EN 60747-5-2, IEC/EN 60950-1, UL 1577	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	Cosmo Electronics	KPC817	di = 0.5 mm, int. dcr = 5.3 mm, ext. dcr = 8.0 mm, 5000 Vac, 100 oC	DIN EN 60747-5-2, IEC/EN 60950-1, UL 1577	UL, VDE
Alternative	Lite-On Technology	LTV-10xx, xx=06,07,08,09	di=0.4mm, thermal cycling, ext. dcr=8.0mm 100° C	DIN EN 60747-5-2, IEC/EN 60950-1, UL 1577	VDE, UL
(Alternative)	Vishay Semiconductor Gmbh	TCLT1008	di=0.4mm, thermal cycling, ext. dcr=8.0mm 100° C	DIN EN 60747-5-2, IEC/EN 60950-1, UL 1577	VDE, UL
(Alternative)	Vishay Semiconductor Gmbh	TCLT1006	di=0.4mm, thermal cycling, ext. dcr=8.0mm 100° C	DIN EN 60747-5-2, IEC/EN 60950-1, UL 1577	VDE, UL
(Alternative)	Vishay Semiconductor Gmbh	TCET1109	di=0.6mm, thermal cycling, ext. dcr=8.4mm 100° C	DIN EN 60747-5-2, IEC/EN 60950-1, UL 1577	VDE, UL
Insulator sheet (KPL PCB with fuse: FUSE1)	ITW Electronics Components/ Products (Shanghai)	FORMEX GK-17	V-1 or better, thickness 0.43 mm min.	UL 510	UL
Alternative	YI-HSN Plastech	YIMEX PP-17	V-1 or better, thickness 0.43 mm min.	UL 510	UL
Output cable	Xinfeng Kangxin Enterprise	SPT-1	16 or 18AWG, 300V, 80°C min, VW-1	UL 758	UL
Alternative	Channel Well Technology	1185	16 or 18AWG, 300V, 80°C min, VW-1	UL 758	UL
Alternative	Channel Well Technology	10748	16 or 18AWG, 300V, 80°C min, VW-1	UL 758	UL
Alternative	Channel Well Technology	2468	16 or 18AWG, 300V, 80°C min, VW-1	UL 758	UL
Alternative	Channel Well Technology	2464	16 or 18AWG, 300V, 80°C min, VW-1	UL 758	UL
Thermal pad for C2 (KPL O/P $\geq$ 60W models)	Pioneer Material Precision Tech	PMP-P-300	V-2 or better	UL 94	UL
Rubber pad (under PCB) (KPL)	Inaoc	CR4505	HF-1 or better	UL 94	UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Thermistor (TH1) (2ABF, 2ACL, GTR) (Optional)	Thinking Electronic	SCK	Max. 5Ω, min. 3A at 25°C	IEC/EN 60950-1	Test with appliance
Alternative	Nanjing shiheng Electronics	MF72	Max. 5Ω, min. 3A at 25°C	IEC/EN 60950-1	Test with appliance
Gas tube (SA1, SA2) (2ABF, 2ACL) (optional)	Sinnaggata	SPG-xxxM-LF	Min200V	IEC/EN 60950-1	Test with appliance
Alternative	Brightking	BK3200xxx2	Min200V	IEC/EN 60950-1	Test with appliance
Alternative	Solomon Group	BLKSxxxxK-E	Min200V	IEC/EN 60950-1	Test with appliance
Supplementary information: 1. An asterisk indicates a mark that assures the agreed level of surveillance. 2. In Optocoupler technical data column, where “di” means distance through insulation, “int.” means internal creepage distance, “ext.” means external creepage distance.					

1.5.1	TABLE: Opto Electronic Devices	P
Manufacturer	1). Lite-On 2). Cosmo 3). Toshiba 4). Everlight 5). Fairchild 6). Sharp 7). Sharp 8). Cosmo	
Type	1). LTV-817 2). K1010 3). TLP781/TL781F 4). EL817 5). FOD817 6). PC817 7). PC123 8). KPC817	
Separately tested.....	Approved device not tested	
Bridging insulation	See Above	
External creepage distance	See Above	
Internal creepage distance	See Above	
Distance through insulation	See Above	
Tested under the following conditions.....	See Above	
Input	See Above	
Output.....	See Above	
Supplementary information:		

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: Electrical data (in normal conditions) (31581397.020)					P
U (V) / F(Hz)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
Model : 2ACL068S(54V/1.25A)						
90/60	1.518	--	76.0	F1	1.518	Max. Normal Load- 54V/1.25A
100/50	1.362	1.7	75.4	F1	1.362	Max. Normal Load- 54V/1.25A
100/60	1.393	1.7	75.4	F1	1.393	Max. Normal Load- 54V/1.25A
240/50	0.791	1.7	73.1	F1	0.791	Max. Normal Load- 54V/1.25A
240/60	0.760	1.7	73.1	F1	0.760	Max. Normal Load- 54V/1.25A
254/50	0.758	--	73.4	F1	0.758	Max. Normal Load- 54V/1.25A
264/50	0.737	--	73.8	F1	0.737	Max. Normal Load- 54V/1.25A
Supplementary information: The steady state input current did not exceed the rated current at the rated voltage under the maximum normal load.						

1.6.2	TABLE: Electrical data (in normal conditions) (31581397.016)					P
U (V) / F(Hz)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
Model : KPL-065A-KV(36V/1.81A)						
90/60	1.520	--	73.8	F1,F2	1.520	Max. Normal Load- 36V/1.81A
100/50	1.348	1.7	73.2	F1,F2	1.348	Max. Normal Load- 36V/1.81A
100/60	1.406	1.7	73.2	F1,F2	1.406	Max. Normal Load- 36V/1.81A
240/50	0.820	1.7	71.0	F1,F2	0.820	Max. Normal Load- 36V/1.81A
240/60	0.790	1.7	70.9	F1,F2	0.790	Max. Normal Load- 36V/1.81A
254/50	0.786	--	71.1	F1,F2	0.786	Max. Normal Load- 36V/1.81A
264/50	0.764	--	71.2	F1,F2	0.764	Max. Normal Load- 36V/1.81A
Model : KPL-065T-KV(52V/1.25A)						
90/60	1.497	--	72.4	F1,F2	1.497	Max. Normal Load- 52V/1.25A
100/50	1.327	1.7	71.9	F1,F2	1.327	Max. Normal Load- 52V/1.25A
100/60	1.385	1.7	71.9	F1,F2	1.385	Max. Normal Load- 52V/1.25A
240/50	0.819	1.7	70.8	F1,F2	0.819	Max. Normal Load- 52V/1.25A
240/60	0.789	1.7	70.8	F1,F2	0.789	Max. Normal Load- 52V/1.25A
254/50	0.787	--	71.1	F1,F2	0.787	Max. Normal Load- 52V/1.25A
264/50	0.764	--	71.2	F1,F2	0.764	Max. Normal Load- 52V/1.25A
MODEL: KPL-065P-KV(54V/1.20A)						
90/60	0.543	--	72.6	F1,F2	0.543	Max. Normal Load- 54V/1.2A
100/50	0.546	1.7	71.6	F1,F2	0.546	Max. Normal Load- 54V/1.2A
100/60	0.524	1.7	71.6	F1,F2	0.524	Max. Normal Load- 54V/1.2A
240/50	0.364	1.7	70.8	F1,F2	0.364	Max. Normal Load- 54V/1.2A
240/60	0.376	1.7	70.8	F1,F2	0.376	Max. Normal Load- 54V/1.2A
254/50	0.362	--	70.9	F1,F2	0.362	Max. Normal Load- 54V/1.2A

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
264/50	0.356	--	71.0	F1,F2	0.356	Max. Normal Load- 54V/1.2A
MODEL: KPL-066F-KV (12V/5.5A) (LF2: T12.7*7.9*5C)						
90/60	1.582	--	77.5	F1,F2	1.582	Max. Normal Load- 12V/5.5A
100/50	1.421	1.7	76.9	F1,F2	1.421	Max. Normal Load- 12V/5.5A
100/60	1.450	1.7	76.8	F1,F2	1.450	Max. Normal Load- 12V/5.5A
240/50	0.813	1.7	74.3	F1,F2	0.813	Max. Normal Load- 12V/5.5A
240/60	0.776	1.7	74.3	F1,F2	0.776	Max. Normal Load- 12V/5.5A
254/50	0.774	--	74.3	F1,F2	0.774	Max. Normal Load- 12V/5.5A
264/50	0.749	--	74.4	F1,F2	0.749	Max. Normal Load- 12V/5.5A
Supplementary information: The steady state input current did not exceed the rated current at the rated voltage under the maximum normal load.						

1.6.2	TABLE: Electrical data (in normal conditions) (31581397.014)					P
U (V) / F(Hz)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
MODEL: 2ACL030B						
90/60	0.727	--	35.7	F1	0.727	Max. Normal Load- 5V,6A
100/60	0.676	1.7	35.4	F1	0.676	Max. Normal Load- 5V,6A
240/50	0.405	1.7	35.0	F1	0.405	Max. Normal Load- 5V,6A
264/50	0.391	--	35.1	F1	0.391	Max. Normal Load- 5V,6A
MODEL: 2ACL025B						
90/60	0.619	--	29.4	F1	0.619	Max. Normal Load- 5V,5A
100/60	0.579	1.7	29.2	F1	0.579	Max. Normal Load- 5V,5A
240/50	0.352	1.7	29.0	F1	0.352	Max. Normal Load- 5V,5A
264/50	0.340	--	29.0	F1	0.340	Max. Normal Load- 5V,5A
MODEL: KPL-030S-VI						
90/60	0.754	--	33.1	F1	0.754	Max. Normal Load- 48V,0.63A
100/60	0.708	1.7	32.8	F1	0.708	Max. Normal Load- 48V,0.63A
240/50	0.414	1.7	33.1	F1	0.414	Max. Normal Load- 48V,0.63A
264/50	0.391	--	33.7	F1	0.391	Max. Normal Load- 48V,0.63A
MODEL: KPL-065U-VI						
90/60	1.472	--	74.5	F1	1.472	Max. Normal Load- 56V,1.16A
100/60	1.364	1.7	73.9	F1	1.364	Max. Normal Load- 56V,1.16A
240/50	0.819	1.7	72.7	F1	0.819	Max. Normal Load- 56V,1.16A
264/50	0.769	--	72.7	F1	0.769	Max. Normal Load- 56V,1.16A
MODEL: KPL-060U-VI						
90/60	1.381	--	68.6	F1	1.381	Max. Normal Load- 56V,1.07A
100/60	1.276	1.7	67.4	F1	1.276	Max. Normal Load- 56V,1.07A
240/50	0.765	1.7	66.9	F1	0.765	Max. Normal Load- 56V,1.07A
264/50	0.710	--	66.5	F1	0.710	Max. Normal Load- 56V,1.07A
MODEL: KPL-050U-VI						

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Clause	Requirement + Test				Result - Remark	Verdict
90/60	1.174	--	56.7	F1	1.174	Max. Normal Load- 56V,0.89A
100/60	1.096	1.7	56.4	F1	1.096	Max. Normal Load- 56V,0.89A
240/50	0.647	1.7	55.1	F1	0.647	Max. Normal Load- 56V,0.89A
264/50	0.604	--	55.4	F1	0.604	Max. Normal Load- 56V,0.89A
MODEL: KPL-030U-VI						
90/60	0.775	--	33.5	F1	0.775	Max. Normal Load- 56V,0.54A
100/60	0.740	1.7	33.8	F1	0.740	Max. Normal Load- 56V,0.54A
240/50	0.428	1.7	34.3	F1	0.428	Max. Normal Load- 56V,0.54A
264/50	0.399	--	34.5	F1	0.399	Max. Normal Load- 56V,0.54A
Supplementary information: The steady state input current did not exceed the rated current at the rated voltage under the maximum normal load.						

1.6.2	TABLE: Electrical data (in normal conditions) (31581397.012)					P
U (V) / F(Hz)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
MODEL: GTR0382						
90/60	0.9108	--	46.302	F1	0.9108	Max. Normal Load-5.2V/3.8, 12V/1.5A
100/60	0.8510	1.2	46.780	F1	0.8510	Max. Normal Load-5.2V/3.8, 12V/1.5A
240/50	0.4791	1.2	45.376	F1	0.4791	Max. Normal Load-5.2V/3.8, 12V/1.5A
264/50	0.4566	--	45.855	F1	0.4566	Max. Normal Load-5.2V/3.8, 12V/1.5A
Supplementary information: The steady state input current did not exceed the rated current at the rated voltage under the maximum normal load.						

1.6.2	TABLE: Electrical data (in normal conditions) (31581397.010)					P
U (V) / F(Hz)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
MODEL: 2ABF036F						
90/60	0.9028	--	40.932	F1	0.9028	Max. Normal Load- 12V,3.0A
100/60	0.8496	1.7	40.668	F1	0.8496	Max. Normal Load- 12V,3.0A
240/50	0.4546	1.7	40.840	F1	0.4546	Max. Normal Load- 12V,3.0A
264/50	0.4250	--	40.877	F1	0.4250	Max. Normal Load- 12V,3.0A
MODEL: 2ACL060K						
90/60	1.3558	--	68.313	F1	1.3558	Max. Normal Load- 19V,3.16A
100/60	1.2719	1.7	67.825	F1	1.2719	Max. Normal Load- 19V,3.16A
240/50	0.7209	1.7	66.901	F1	0.7209	Max. Normal Load- 19V,3.16A

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Clause	Requirement + Test				Result - Remark	Verdict
264/50	0.6873	--	66.895	F1	0.6873	Max. Normal Load- 19V,3.16A
MODEL: 2ACL060M						
90/60	1.3613	--	67.518	F1	1.3613	Max. Normal Load- 24V,2.5A
100/60	1.2652	1.7	67.803	F1	1.2652	Max. Normal Load- 24V,2.5A
240/50	0.7264	1.7	66.716	F1	0.7264	Max. Normal Load- 24V,2.5A
264/50	0.6856	--	67.186	F1	0.6856	Max. Normal Load- 24V,2.5A
MODEL: 2ACL060R						
90/60	1.3467	--	68.212	F1	1.3467	Max. Normal Load- 48V,1.25A
100/60	1.2492	1.7	67.729	F1	1.2492	Max. Normal Load- 48V,1.25A
240/50	0.7201	1.7	66.908	F1	0.7201	Max. Normal Load- 48V,1.25A
264/50	0.6763	--	66.754	F1	0.6763	Max. Normal Load- 48V,1.25A
MODEL: 2ACL065R						
90/60	1.4264	--	71.619	F1	1.4264	Max. Normal Load- 48V,1.35A
100/60	1.3103	1.7	71.063	F1	1.3103	Max. Normal Load- 48V,1.35A
240/50	0.7564	1.7	69.894	F1	0.7564	Max. Normal Load- 48V,1.35A
264/50	0.7136	--	70.323	F1	0.7136	Max. Normal Load- 48V,1.35A
MODEL: 2ACL060S						
90/60	1.3455	--	67.986	F1	1.3455	Max. Normal Load- 54V,1.1A
100/60	1.2473	1.7	67.487	F1	1.2473	Max. Normal Load- 54V,1.1A
240/50	0.7192	1.7	66.235	F1	0.7192	Max. Normal Load- 54V,1.1A
264/50	0.6838	--	67.051	F1	0.6838	Max. Normal Load- 54V,1.1A
MODEL: 2ACL065S						
90/60	1.4630	--	73.999	F1	1.4630	Max. Normal Load- 54V,1.2A
100/60	1.3531	1.7	73.380	F1	1.3531	Max. Normal Load- 54V,1.2A
240/50	0.7860	1.7	72.148	F1	0.7860	Max. Normal Load- 54V,1.2A
264/50	0.7383	--	71.864	F1	0.7383	Max. Normal Load- 54V,1.2A
MODEL: 2ACL050U						
90/60	1.1619	--	57.647	F1	1.1619	Max. Normal Load- 56V,0.9A
100/60	1.0829	1.7	57.345	F1	1.0829	Max. Normal Load- 56V,0.9A
240/50	0.6191	1.7	56.403	F1	0.6191	Max. Normal Load- 56V,0.9A
264/50	0.5826	--	56.816	F1	0.5826	Max. Normal Load- 56V,0.9A
MODEL: 2ACL060U						
90/60	1.3762	--	68.635	F1	1.3762	Max. Normal Load- 56V,1.07A
100/60	1.2769	1.7	68.133	F1	1.2769	Max. Normal Load- 56V,1.07A
240/50	0.7377	1.7	67.704	F1	0.7377	Max. Normal Load- 56V,1.07A
264/50	0.6928	--	67.784	F1	0.6928	Max. Normal Load- 56V,1.07A
MODEL: 2ACL065U						
90/60	1.4788	--	75.120	F1	1.4788	Max. Normal Load- 56V,1.16A
100/60	1.3677	1.7	74.466	F1	1.3677	Max. Normal Load- 56V,1.16A
240/50	0.7936	1.7	73.129	F1	0.7936	Max. Normal Load- 56V,1.16A
264/50	0.7461	--	73.083	F1	0.7461	Max. Normal Load- 56V,1.16A

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

The steady state input current did not exceed the rated current at the rated voltage under the maximum normal load.

1.6.2	TABLE: Electrical data (in normal conditions) (11040445.001)					P
U (V) / F(Hz)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
MODEL: 2ABF048F						
90/50	1.08	--	53.5	F1	1.08	Max. Normal Load: 12V,4A
90/60	1.12	--	53.5	F1	1.12	Max. Normal Load: 12V,4A
100/50	1.01	1.7	53.5	F1	1.01	Max. Normal Load: 12V,4A
100/60	1.04	1.7	53.5	F1	1.04	Max. Normal Load: 12V,4A
240/50	0.63	1.7	55.3	F1	0.63	Max. Normal Load: 12V,4A
240/60	0.61	1.7	55.3	F1	0.61	Max. Normal Load: 12V,4A
254/50	0.60	--	55.3	F1	0.60	Max. Normal Load: 12V,4A
254/60	0.59	--	55.3	F1	0.59	Max. Normal Load: 12V,4A
264/50	0.58	--	55.3	F1	0.58	Max. Normal Load: 12V,4A
264/60	0.57	--	55.3	F1	0.57	Max. Normal Load: 12V,4A
MODEL: 2ABF060F						
90/50	1.35	--	67.3	F1	1.35	Max. Normal Load: 12V,5A
90/60	1.41	--	67.3	F1	1.41	Max. Normal Load: 12V,5A
100/50	1.26	1.7	67.0	F1	1.26	Max. Normal Load: 12V,5A
100/60	1.30	1.7	67.0	F1	1.30	Max. Normal Load: 12V,5A
240/50	0.76	1.7	65.5	F1	0.76	Max. Normal Load: 12V,5A
240/60	0.73	1.7	65.5	F1	0.73	Max. Normal Load: 12V,5A
254/50	0.72	--	65.5	F1	0.72	Max. Normal Load: 12V,5A
254/60	0.70	--	65.5	F1	0.70	Max. Normal Load: 12V,5A
264/50	0.70	--	65.5	F1	0.70	Max. Normal Load: 12V,5A
264/60	0.68	--	65.5	F1	0.68	Max. Normal Load: 12V,5A
MODEL: 2ABF065F						
90/50	1.45	--	73.5	F1	1.45	Max. Normal Load: 12V,5.4A
90/60	1.51	--	73.6	F1	1.51	Max. Normal Load: 12V,5.4A
100/50	1.34	1.7	73.0	F1	1.34	Max. Normal Load: 12V,5.4A
100/60	1.39	1.7	73.1	F1	1.39	Max. Normal Load: 12V,5.4A
240/50	0.81	1.7	71.0	F1	0.81	Max. Normal Load: 12V,5.4A
240/60	0.79	1.7	71.0	F1	0.79	Max. Normal Load: 12V,5.4A
254/50	0.78	--	71.0	F1	0.78	Max. Normal Load: 12V,5.4A
254/60	0.76	--	71.0	F1	0.76	Max. Normal Load: 12V,5.4A
264/50	0.76	--	71.0	F1	0.76	Max. Normal Load: 12V,5.4A
264/60	0.74	--	71.0	F1	0.74	Max. Normal Load: 12V,5.4A
MODEL: 2ABF060R						
90/50	1.29	--	65.2	F1	1.29	Max. Normal Load: 48V,1.25A

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Clause	Requirement + Test				Result - Remark	Verdict
90/60	1.33	--	65.3	F1	1.33	Max. Normal Load: 48V,1.25A
100/50	1.20	1.7	65.0	F1	1.20	Max. Normal Load: 48V,1.25A
100/60	1.24	1.7	65.1	F1	1.24	Max. Normal Load: 48V,1.25A
240/50	0.74	1.7	64.2	F1	0.74	Max. Normal Load: 48V,1.25A
240/60	0.72	1.7	64.1	F1	0.72	Max. Normal Load: 48V,1.25A
254/50	0.71	--	64.1	F1	0.71	Max. Normal Load: 48V,1.25A
254/60	0.68	--	64.1	F1	0.68	Max. Normal Load: 48V,1.25A
264/50	0.68	--	64.1	F1	0.68	Max. Normal Load: 48V,1.25A
264/60	0.66	--	64.1	F1	0.66	Max. Normal Load: 48V,1.25A
Supplementary information: The steady state input current did not exceed the rated current at the rated voltage under the maximum normal load.						

1.6.2	TABLE: Electrical data (in normal conditions) (PCB with fuses: F1, F2) (31581397.001)					P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
Model: KPL-060I-VI (16Vdc / 3.75A)						
90	1.387	--	68.77	F1, F2	6.3A, 3.15A	Full load, 60Hz
100	1.291	1.7	68.25	F1, F2	6.3A, 3.15A	Full load, 60Hz
240	0.740	1.7	66.69	F1, F2	6.3A, 3.15A	Full load, 50Hz
264	0.700	--	67.02	F1, F2	6.3A, 3.15A	Full load, 50Hz
Model: KPL-066F-VI (12Vdc / 5.5A)						
90	1.522	--	76.34	F1, F2	6.3A, 3.15A	Full load, 60Hz
100	1.41	1.7	76.22	F1, F2	6.3A, 3.15A	Full load, 60Hz
240	0.82	1.7	74.04	F1, F2	6.3A, 3.15A	Full load, 50Hz
264	0.763	--	75.00	F1, F2	6.3A, 3.15A	Full load, 50Hz
Model: KPL-065J-VI (18Vdc / 3.61A)						
90	1.491	--	75.03	F1, F2	6.3A, 3.15A	Full load, 60Hz
100	1.375	1.7	74.35	F1, F2	6.3A, 3.15A	Full load, 60Hz
240	0.797	1.7	73.05	F1, F2	6.3A, 3.15A	Full load, 50Hz
264	0.745	--	73.47	F1, F2	6.3A, 3.15A	Full load, 50Hz
Model: KPL-065M-VI (24Vdc / 2.71A)						
90	1.485	--	75.45	F1, F2	6.3A, 3.15A	Full load, 60Hz
100	1.380	1.7	74.45	F1, F2	6.3A, 3.15A	Full load, 60Hz
240	0.796	1.7	72.33	F1, F2	6.3A, 3.15A	Full load, 50Hz
264	0.746	--	72.63	F1, F2	6.3A, 3.15A	Full load, 50Hz
Model: KPL-065S-VI (48Vdc / 1.35A)						
90	1.440	--	72.06	F1, F2	6.3A, 3.15A	Full load, 60Hz
100	1.335	1.7	71.50	F1, F2	6.3A, 3.15A	Full load, 60Hz
240	0.775	1.7	69.74	F1, F2	6.3A, 3.15A	Full load, 50Hz
264	0.726	--	70.06	F1, F2	6.3A, 3.15A	Full load, 50Hz

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

The steady state input current did not exceed the rated current at the rated voltage under the maximum normal load.

1.6.2	TABLE: Electrical data (in normal conditions) (PCB with fuse: FUSE1) (15077081.001)					P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
Model: KPL-060I (14Vdc / 4.29A)						
90	1.263	--	69.3	FUSE1	4A	Full load, 50Hz
90	1.276	--	69.3	FUSE1	4A	Full load, 60Hz
100	1.157	1.7	68.6	FUSE1	4A	Full load, 50Hz
100	1.169	1.7	68.8	FUSE1	4A	Full load, 60Hz
240	0.532	1.7	67.5	FUSE1	4A	Full load, 50Hz
240	0.525	1.7	67.5	FUSE1	4A	Full load, 60Hz
254.4	0.509	--	67.4	FUSE1	4A	Full load, 50Hz
254.4	0.502	--	67.4	FUSE1	4A	Full load, 60Hz
264	0.494	--	67.2	FUSE1	4A	Full load, 50Hz
264	0.488	--	67.3	FUSE1	4A	Full load, 60Hz
Model: KPL-065F (12Vdc / 5.42A)						
90	1.359	--	75.3	FUSE1	4A	Full load, 50Hz
90	1.371	--	75.2	FUSE1	4A	Full load, 60Hz
100	1.241	1.7	74.4	FUSE1	4A	Full load, 50Hz
100	1.253	1.7	74.5	FUSE1	4A	Full load, 60Hz
240	0.572	1.7	73.2	FUSE1	4A	Full load, 50Hz
240	0.563	1.7	73.2	FUSE1	4A	Full load, 60Hz
254.4	0.546	--	73.0	FUSE1	4A	Full load, 50Hz
254.4	0.538	--	73.0	FUSE1	4A	Full load, 60Hz
264	0.531	--	73.0	FUSE1	4A	Full load, 50Hz
264	0.524	--	73.0	FUSE1	4A	Full load, 60Hz
Model: KPL-065J (18Vdc / 3.61A)						
90	1.356	--	75.4	FUSE1	4A	Full load, 50Hz
90	1.369	--	75.3	FUSE1	4A	Full load, 60Hz
100	1.237	1.7	74.5	FUSE1	4A	Full load, 50Hz
100	1.252	1.7	74.6	FUSE1	4A	Full load, 60Hz
240	0.572	1.7	73.3	FUSE1	4A	Full load, 50Hz
240	0.565	1.7	73.4	FUSE1	4A	Full load, 60Hz
254.4	0.549	--	73.3	FUSE1	4A	Full load, 50Hz
254.4	0.542	--	73.5	FUSE1	4A	Full load, 60Hz
264	0.534	--	73.4	FUSE1	4A	Full load, 50Hz
264	0.528	--	73.5	FUSE1	4A	Full load, 60Hz
Model: KPL-065M (24Vdc / 2.71A)						
90	1.333	--	73.7	FUSE1	4A	Full load, 50Hz

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Clause	Requirement + Test				Result - Remark	Verdict
90	1.347	--	73.7	FUSE1	4A	Full load, 60Hz
100	1.223	1.7	72.8	FUSE1	4A	Full load, 50Hz
100	1.234	1.7	73.1	FUSE1	4A	Full load, 60Hz
240	0.560	1.7	71.2	FUSE1	4A	Full load, 50Hz
240	0.551	1.7	71.3	FUSE1	4A	Full load, 60Hz
254.4	0.537	--	71.5	FUSE1	4A	Full load, 50Hz
254.4	0.529	--	71.5	FUSE1	4A	Full load, 60Hz
264	0.524	--	72.1	FUSE1	4A	Full load, 50Hz
264	0.518	--	72.3	FUSE1	4A	Full load, 60Hz
Supplementary information: The steady state input current did not exceed the rated current at the rated voltage by more than 10 percent under maximum normal load.						

2.1.1.5 c) 1)	TABLE: max. V, A, VA test (31581397.020)				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
MODEL: 2ACL068S (with F3 added)					
+54 V	1.25	52.8	2.11	110.1	
Supplementary information: Test voltage: 240Vac, 60Hz					

2.1.1.5 c) 1)	TABLE: max. V, A, VA test (31581397.016)				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
MODEL: KPL-065A-KV					
+36 V	1.81	37.4	2.78	95.6	
Supplementary information: Test voltage: 240Vac, 60Hz					

2.1.1.5 c) 1)	TABLE: max. V, A, VA test (31581397.014)				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
MODEL: 2ACL030B					
+5 V	6.0	5.193	7.84	39.5	
MODEL: KPL-065U-VI					
+56 V	1.16	56.598	1.78	98.4	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:
Test voltage: 240Vac, 60Hz

2.1.1.5 c) 1)	TABLE: max. V, A, VA test (31581397.012)	P
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Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
MODEL: GTR0382				
+5.2 V	3.8	5.403	4.98	24.0
+12 V	1.5	12.223	5.64	63.6
Supplementary information: Test voltage: 240Vac, 60Hz				

2.1.1.5 c) 1)	TABLE: max. V, A, VA test (31581397.010)	P
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Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
MODEL: 2ACL060K				
+19 V	3.16	19.19	4.46	82.2
MODEL: 2ACL060M				
+24 V	2.5	24.206	3.52	78.8
MODEL: 2ACL065R				
+48 V	1.35	47.914	1.95	89.8
MODEL: 2ACL065S				
+54 V	1.2	53.876	1.84	96.3
MODEL: 2ACL065U				
+56 V	1.16	56.528	1.81	98.6
Supplementary information: Test voltage: 240Vac, 60Hz				

2.1.1.5 c) 1)	TABLE: max. V, A, VA test (11040445.001)	P
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Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
MODEL 2ABF065F				
12	5.4	12.2	7.6	88.3
MODEL 2ABF060R				
48	1.25	47.9	2.0	94.9

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

Test voltage: 240Vac, 60Hz

2.1.1.5 c) 1)	TABLE: max. V, A, VA test (PCB with fuses: F1, F2) (31581397.001)	P
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Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
Model: KPL-060I-VI				
16.0	3.75	16.18	5.64	88.55 (15.70 x 5.64)
Model: KPL-066F-VI				
12.0	5.50	12.22	7.25	85.11 (11.74 x 7.25)
Model: KPL-065J-VI				
18.0	3.61	18.37	4.41	79.38 (18.00 x 4.41)
Model: KPL-065M-VI				
24.0	2.71	24.67	3.91	95.13 (24.33 x 3.91)
Model: KPL-065S-VI				
48.0	1.35	47.96	1.99	95.09 (47.78 x 1.99)
Supplementary information:				
Test voltage: 240Vac, 60Hz				

2.1.1.5 c) 1)	TABLE: max. V, A, VA test (PCB with fuse: FUSE1) (15077081.001)	P
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Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
Model: KPL-060I				
16.0	3.75	16.03	5.83	91.7 (15.73 x 5.83)
Model: KPL-065F				
12.0	5.42	12.08	7.46	87.9 (11.78 x 7.46)
Model: KPL-065J				
18.0	3.61	18.03	4.52	81.2 (17.96 x 4.52)
Model: KPL-065M				
24.0	2.71	24.02	3.20	76.3 (23.84 x 3.20)
Supplementary information:				
Test voltage: 240Vac, 60Hz				

2.1.1.5 c) 2)	TABLE: stored energy	N/A
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Capacitance C (μF)	Voltage U (V)	Energy E (J)

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information: E = $0.5CU^2 \times 10^{-6}$			
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2.1.1.7	TABLE: Discharge test 2ACL Seris (with R2A, R4A) (31581397.020)			P
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Condition	$\tau_{\text{calculated}}$ (s)	τ_{measured} (s)	t u $\rightarrow$ 0V (s)	Comments
Line to Neutral	--	0.572	--	Vpk=377V, 37% of Vpk=139.49V, Vtc=70.2V

Supplementary information: Note(s): CX1=0.47 μ F, R2=R4=R2A=R4A=2.2M Ω input voltage :264V,50Hz				
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2.1.1.7	TABLE: Discharge test (KPL PCB with fuses: F1, F2) (31581397.016)			P
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Condition	$\tau_{\text{calculated}}$ (s)	τ_{measured} (s)	t u $\rightarrow$ 0V (s)	Comments
Line to Neutral	--	0.736	--	Vo=376V, 37% of Vo=139.12V, after 1 sec.at 98V

Supplementary information: Test voltage: 240 Vac, 50 Hz Overall capacitance: CX1= 0.33 μ F Bleeder resistor: R2=R3=R4=R5=3.9 M Ω				
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2.1.1.7	TABLE: Discharge test 2ACL030B (31581397.014)			P
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Condition	$\tau_{\text{calculated}}$ (s)	τ_{measured} (s)	t u $\rightarrow$ 0V (s)	Comments
Line to Neutral	--	0.740	--	Vpk=376V, 37% of Vpk=139.12V, Vtc=96V

Supplementary information: Note(s): CX1=0.47 μ F, R2=R4=1.5M Ω input voltage :264V,60Hz				
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2.1.1.7	TABLE: Discharge test GTR Series (31581397.012)			P
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Clause	Requirement + Test	Result - Remark	Verdict

Condition	$\tau_{\text{calculated}}$ (s)	τ_{measured} (s)	$t_u \rightarrow 0V$ (s)	Comments
Line to Neutral	--	0.808	--	Vpk=378V, 37% of Vpk=138.38V, Vtc=112V
Supplementary information: Note(s): CX1=0.47 μ F, R2=R4 = 2M Ω input voltage :264V,60Hz				

2.1.1.7	TABLE: Discharge test 2ACL Series (without R2A,R4A) (31581397.020)			P
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Condition	$\tau_{\text{calculated}}$ (s)	τ_{measured} (s)	$t_u \rightarrow 0V$ (s)	Comments
Line to Neutral	--	0.968	--	Vpk=378V, 37% of Vpk=139.86V, after 1 sec.at 132V
Supplementary information: Note(s): CX1=0.33 μ F, R2=R4 = 1.5M Ω , R47 open input voltage :264V,60Hz				

2.1.1.7	TABLE: Discharge test 2ABF Series (11040445.001)			P
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Condition	$\tau_{\text{calculated}}$ (s)	τ_{measured} (ms)	$t_u \rightarrow 0V$ (s)	Comments
Line to Neutral	0.99	896	--	Vo=364, 37% of Vo=134.68, Vtc=120V
Supplementary information: Test voltage 264V, 60Hz CX1=0.33 μ F, R14=R21=1.5M Ω				

2.1.1.7	TABLE: Discharge test (KPL PCB with fuses: F1, F2) (31581397.001)			P
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Condition	$\tau_{\text{calculated}}$ (s)	τ_{measured} (s)	$t_u \rightarrow 0V$ (s)	Comments
Line to Neutral	1.287	0.456	--	Vpk=340, 37% of Vpk=126V
Supplementary information: Test voltage: 240 Vac, 50 Hz Overall capacitance: 0.47 μ F Bleeder resistor: R2=R3=R4=R5=3.9 M Ω				

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Clause	Requirement + Test	Result - Remark	Verdict

2.1.1.7	TABLE: Discharge test (PCB with fuse: FUSE1) (15077081.001)			P
Condition	$\tau_{\text{calculated}}$ (s)	τ_{measured} (s)	$t_u \rightarrow 0V$ (s)	Comments
Line to Neutral	1.034	0.31	--	Vpk=373, 37% of Vpk=139V
Supplementary information: Test voltage: 240 Vac, 50 Hz Overall capacitance: 0.47 μF Bleeder resistor: 3.9 M Ω R1 removed				

2.2	TABLE: evaluation of voltage limiting components in SELV circuits (31581397.020)			P
Component (measured between)		max. voltage (V) (normal operation)		Voltage Limiting Components
		V peak	V d.c.	
MODEL: 2ACL068S				
Pin 8,9 to V-		--	51.8	
Pin 11,12 to V-		170	--	
After Q2 pin S		--	0	Q2(D-S)
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Q2(D-S) Shorted		0		
Supplementary information: Input: 240Vac, 50Hz Output: +54V/1.25A, 68W;				

2.2	TABLE: evaluation of voltage limiting components in SELV circuits (31581397.016)			P
Component (measured between)		max. voltage (V) (normal operation)		Voltage Limiting Components
		V peak	V d.c.	
MODEL: KPL-065A-KV				
T1: Pin 11,12 to Pin 8		117	--	--
After D3 to T1 Pin 8		--	35.7	D3
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Q3 short		Output: 0V		

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

Input: 240Vac, 50Hz

Output: +36V/1.81A,65W;

2.2	TABLE: evaluation of voltage limiting components in SELV circuits (31581397.014)	P
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Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
MODEL: 2ACL030B			
T1: Pin 7 to V-	106	--	--
After D6 to V-	30.8	19.5	D6
T1: Pin 8,9 to V-	--	5.16	--
T1: Pin 11,12 to V-	43.6	--	--
After Q2 pin S	--	0	Q2 (D-S)
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Q2 (D-S) short	Output: 0V		
D6 Shorted	Output: 0V		
Supplementary information:			
Input: 240Vac, 50Hz			
Output: +5V/6A,30W;			

Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
MODEL: KPL-065U-VI			
T1 Pin 8, 9 - Pin 11, 12	175	--	
T1 After D3 to Pin 8, 9	--	55.8	D3
T1 After C15 to Pin 8, 9	114	--	R41 & R42
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
D3 short	Output: 0V		
C15 Shorted	Output: 55.2V		
Supplementary information: Input: 240Vac, 50Hz Output: +56V/1.16A,65W;			

2.2	TABLE: evaluation of voltage limiting components in SELV circuits (31581397.012)	P
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Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	

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Clause	Requirement + Test	Result - Remark	Verdict
		V peak	V d.c.
MODEL: GTR0382			
T1: Pin 6 to V-	14.0	12.3	--
T1: Pin 7 to V-	103	--	Q2 (D-S)
After Q2 pin S	--	0	--
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Q2 (D-S) short	Output: 0V		
Supplementary information: Input: 240Vac, 50Hz Output: +5.2V/3.8A, +12V/1.5A, total 38W			

2.2	TABLE: evaluation of voltage limiting components in SELV circuits (31581397.010)			P
Component (measured between)		max. voltage (V) (normal operation)		Voltage Limiting Components
		V peak	V d.c.	
MODEL: 2ACL060K				
T1: Pin 8,9 to V-		19.5	18.9	--
T1: Pin 11,12 to V-		75.6	--	--
After Q2 pin S		--	0	Q2 (D-S)
MODEL: 2ACL060M				
T1: Pin 8,9 to V-		24.5	23.8	--
T1: Pin 11,12 to V-		80.0	--	--
After Q2 pin S		--	0	Q2 (D-S)
MODEL: 2ACL065R				
T1: Pin 8,9 to V-		48.2	47.3	--
T1: Pin 11,12 to V-		166.0	--	--
After Q2 pin S		--	0	Q2 (D-S)
MODEL: 2ACL065S				
T1: Pin 8,9 to V-		53.8	53.0	--
T1: Pin 11,12 to V-		166.0	--	--
After Q2 pin S		--	0	Q2 (D-S)
MODEL: 2ACL065U				
T1: Pin 8,9 to V-		56.2	55.3	--
T1: Pin 11,12 to V-		167.0	--	--
After Q2 pin S		--	0	Q2 (D-S)
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Q2 (D-S) short		Output: 0V		

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

Input: 240Vac, 50Hz

Output: +19V/3.16A, +24V/2.5A, total 60W; +48V/1.35A, +54V/1.2A, +56V/1.16A, total 65W;

2.2	TABLE: evaluation of voltage limiting components in SELV circuits (11040445.001)			P
Component (measured between)		max. voltage (V) (normal operation)		Voltage Limiting Components
		V peak	V d.c.	
MODEL: 2ABF065F				
T1 Pin 8,9 to V-		12.1	--	--
Pin 11,12 to V-		66.0	--	--
After Q1 pin S		--	0	Q1(D-S)
MODEL: 2ABF060R				
T1 Pin 8,9 to V-		47.3	--	--
Pin 11,12 to V-		86.5	--	--
After Q1 pin S		--	0	Q1(D-S)
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
MODEL: 2ABF065F				
Q1 (D-S) short		Output: 0V		
MODEL: 2ABF060R				
Q1 (D-S) short		Output: 0V		
Supplementary information:				
1. EUT supplied with 240V / 60Hz.				

2.2	TABLE: evaluation of voltage limiting components in SELV circuits (PCB with fuses: F1, F2) (31581397.001)			P
Component (measured between)		max. voltage (V) (normal operation)		Voltage Limiting Components
		V peak	V d.c.	
Model: KPL-060I-VI				
T1 Pin 8, 9 - Pin 11, 12		40.4	--	
T1 After D3/D6 to Pin 8, 9		--	16.2	D3/D6
T1 After C15 to Pin 8, 9		32.4	--	C15
Model: KPL-066F-VI				
T1 Pin 8, 9 - Pin 11, 12		40.4	--	
T1 After D3/D6 to Pin 8, 9		--	12.2	D3/D6
T1 After C15 to Pin 8, 9		26.4	--	C15
Model: KPL-065J-VI				
T1 Pin 8, 9 - Pin 11, 12		63.2	--	

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Clause	Requirement + Test	Result - Remark		Verdict
T1 After D3/D6 to Pin 8, 9	--	18.5	D3/D6	
T1 After C15 to Pin 8, 9	36.4	--	C15	
Model: KPL-065M-VI				
T1 Pin 8, 9 - Pin 11, 12	67.2	--		
T1 After D3/D6 to Pin 8, 9	--	24.6	D3/D6	
T1 After C15 to Pin 8, 9	43.6	--	C15	
Model: KPL-065S-VI				
T1 Pin 8, 9 - Pin 11, 12	131	--		
T1 After D3/D6 to Pin 8, 9	--	47.5	D3/D6	
T1 After C15 to Pin 8, 9	50.4	--	C15	
Supplementary information: Test voltage: 240 Vac, 50Hz				
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Model: KPL-060I-VI				
D3/D6 shorted	0			
C15 shorted	16.2			
R41/R42 shorted	16.2			
Model: KPL-066F-VI				
D3/D6 shorted	0			
C15 shorted	12.2			
R41/R42 shorted	12.2			
Model: KPL-065J-VI				
D3/D6 shorted	0			
C15 shorted	18.37			
R41/R42 shorted	18.37			
Model: KPL-065M-VI				
D3/D6 shorted	0			
C15 shorted	24.6			
R41/R42 shorted	24.6			
Model: KPL-065S-VI				
D3/D6 shorted	0			
C15 shorted	47.9			
R41/R42 shorted	47..9			
Supplementary information: Test voltage: 240 Vac, 50Hz				

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Clause	Requirement + Test	Result - Remark	Verdict

2.2	TABLE: evaluation of voltage limiting components in SELV circuits (PCB with fuse: FUSE1) (15077081.001)			P
Component (measured between)		max. voltage (V) (normal operation)		Voltage Limiting Components
		V peak	V d.c.	
Model: KPL-060I				
T1 Pin 8, 9 - Pin 11, 12		44.0	--	
T1 After D3 to Pin 8, 9		--	14.0	D3
T1 After C15 to Pin 8, 9		37.2	--	C15
Model: KPL-065F				
T1 Pin 8, 9 - Pin 11, 12		62.0	--	
T1 After D3 to Pin 8, 9		--	12.0	D3
T1 After C15 to Pin 8, 9		38.4	--	C15
Model: KPL-065J				
T1 Pin 8, 9 - Pin 11, 12		71.0	--	
T1 After D3 to Pin 8, 9		--	17.9	D3
T1 After C15 to Pin 8, 9		54.4	--	R41 & R42
Model: KPL-065M				
T1 Pin 8, 9 - Pin 11, 12		69.0	--	
T1 After D3 to Pin 8, 9		--	24.0	D3
T1 After C15 to Pin 8, 9		66.1	--	R41 & R42
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Model: KPL-060I				
D3 shorted		0		
C15 shorted		15.97		
Model: KPL-065F				
D3 shorted		0		
C15 shorted		11.87		
Model: KPL-065J				
D3 shorted		0		
C15 shorted		18.03		
Model: KPL-065M				
D3 shorted		0		
C15 shorted		23.86		
Supplementary information: Test voltage: 240 Vac, 50Hz				

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Clause	Requirement + Test	Result - Remark	Verdict

2.4.2	TABLE: Limited current circuit measurement (31581397.012)					P
Location		Voltage (V)	Current (mA)	Freq. (Hz)	Limit (mA)	Comments
Model: GTR0382						
CY1 secondary pin to earth		0.84	0.42	60	0.7	CY1 = 3300pF
supplementary information: Test voltage: 264 Vac, 60Hz						

2.4.2	TABLE: Limited current circuit measurement (31581397.010)					P
Location		Voltage (V)	Current (mA)	Freq. (Hz)	Limit (mA)	Comments
Model: 2ACL						
CY1		0.332	0.166	60	0.7	CY1 = 3300pF
Model: KPL (PCB with fuse: F1 and F2)						
CY1+CY2 (in series)		0.252	0.112	60	0.7	CY1=CY2=2200pF
supplementary information: Test voltage: 264 Vac, 60Hz						

2.4.2	TABLE: Limited current circuit measurement (11040445.001)					P
Location		Voltage (V)	Current (mA)	Freq. (Hz)	Limit (mA)	Comments
Model: 2ABF						
CY1		0.94	0.47	60	0.7	CY1 = 3300pF
supplementary information: - EUT supplied with 240V / 60Hz.						

2.4.2	TABLE: Limited current circuit measurement (KPL: PCB with fuses: F1, F2) (31581397.001)					P
Location		Voltage (V)	Current (mA)	Freq. (Hz)	Limit (mA)	Comments
CY1		0.33	0.17	60	0.7	CY1 = 2200pF
supplementary information: Test voltage: 264 Vac, 60Hz						

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Clause	Requirement + Test	Result - Remark	Verdict

2.4.2	TABLE: Limited current circuit measurement (KPL: PCB with fuse: FUSE1) (15077081.001)					P
Location		Voltage (V)	Current (mA)	Freq. (Hz)	Limit (mA)	Comments
CY1		0.33	0.17	60	0.7	CY1 = 2200pF
Supplementary information: Test voltage: 264 Vac, 60Hz						

2.5	TABLE: Limited power sources (31581397.020)					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Test condition (Single fault)	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Model: 2ACL068S						
Normal condition	Normal	52.8	2.11	18.51 (1000/54)	111.4 (52.8*2.11)	250
R9	S-C	53.2	1.73	18.51	92.0 (53.2*1.73)	250
IC1 pin1-2	S-C	0	0	18.51	0	250
IC1 pin3-4	S-C	0	0	18.51	0	250
Model: 2ACL065R						
Normal condition	Normal	47.0	2.11	20.83 (1000/48)	99.2 (47.0*2.11)	250
Model: 2ACL065U						
Normal condition	Normal	56.4	1.80	17.85 (1000/56)	101.5 (56.4*1.80)	250
Supplementary information: Sc=Short circuit, Oc=Open circuit The fuse (4T, ICP, PDU, PTU, 677) endure 210% current of the rating current, and break down in less than 120s;						

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Clause	Requirement + Test			Result - Remark		Verdict
2.5	TABLE: Limited power sources (31581397.016)					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Test condition (Single fault)	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Model: KPL-065A-KV						
Normal condition	Normal	37.4	2.73	8	95.6 (35.0*2.73)	100
R9	S-C	0	0	8	0	100
R9	O-C	37.4	1.92	8	65.3 (34.0*1.92)	100
IC1 (A)	S-C	0	0	8	0	100
IC1 (B)	S-C	0	0	8	0	100
IC1 (A)	O-C	0	0	8	0	100
Supplementary information: Sc=Short circuit, Oc=Open circuit						

2.5	TABLE: Limited power sources (31581397.014)					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Test condition (Single fault)	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Model: 2ACL030B						
Normal condition	Normal	5.193	7.84	8	39.5 (5.14*7.68)	100
IC2 (2-3)	S-C	0	0	8	0	100
IC1 (1-2) IC1 (3-4)	S-C	0	0	8	0	100
R9	S-C	0	Unit damaged (no current measured)	8	Unit damaged (no current measured)	100
Model: KPL-065U-VI						
Normal condition	Normal	56.598	1.78	8	98.4 (55.6*1.77)	100
R9	S-C	0	0	8	0	100

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Clause	Requirement + Test			Result - Remark		Verdict
R9	O-C	56.598	1.46	8	79.49 (55.2*1.44)	100
IC1(A)	S-C	0	0	8	0	100
IC1(B)	S-C	0	0	8	0	100
IC1(A)	O-C	0	0	8	0	100
Supplementary information: Sc=Short circuit, Oc=Open circuit						

2.5	TABLE: Limited power sources (31581397.012)					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Test condition (Single fault)	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Model: GTR0382						
Normal condition	Normal	5.403	4.98	8	24.0 (4.86*4.94)	100
R43	S-C	1.212	4.8	8	2.68 (0.9*2.98)	100
R44	S-C	6.41	4.95	8	3.10 (2.82*1.1)	100
Normal condition	Normal	12.223	5.64	8	82.2 (18.6*4.42)	100
U3 (2-3)	S-C	0	0	8	0	100
IC1 (1-2) IC1 (3-4)	S-C	0	0	8	0	100
R9	S-C	0	Unit shut down (no current measured)	8	Unit shut down (no current measured)	100
Supplementary information: Sc=Short circuit, Oc=Open circuit						

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
2.5	TABLE: Limited power sources (31581397.010)					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Test condition (Single fault)	Uoc (V)	Isc (A)		VA	
			Meas.	Limit	Meas.	Limit
Model: 2ACL060K						
Normal condition	Normal	19.19	4.46	8	82.2 (18.6*4.42)	100
IC2 (2-3)	S-C	0	0	8	0	100
IC1 (1-2) IC1 (3-4)	S-C	0	0	8	0	100
R9	S-C	0	Unit damaged (no current measured)	8	Unit damaged (no current measured)	100
Model: 2ACL060M						
Normal condition	Normal	24.21	3.52	8	78.8 (22.5*3.5)	100
IC2 (2-3)	S-C	0	0	8	0	100
IC1 (1-2) IC1 (3-4)	S-C	0	0	8	0	100
R9	S-C	0	Unit damaged (no current measured)	8	Unit damaged (no current measured)	100
Model: 2ACL065R						
Normal condition	Normal	47.914	1.95	8	89.8 (47.0*1.91)	100
IC2 (2-3)	S-C	0	0	8	0	100
IC1 (1-2) IC1 (3-4)	S-C	0	0	8	0	100
R9	S-C	0	Unit damaged (no current measured)	8	Unit damaged (no current measured)	100
Model: 2ACL065S						
Normal condition	Normal	53.876	1.84	8	96.3 (53.2*1.81)	100
IC2 (2-3)	S-C	0	0	8	0	100
IC1 (1-2) IC1 (3-4)	S-C	0	0	8	0	100

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Clause	Requirement + Test			Result - Remark		Verdict
R9	S-C	0	Unit damaged (no current measured)	8	Unit damaged (no current measured)	100
Model: 2ACL065U						
Normal condition	Normal	56.528	1.81	8	98.6 (55.4*1.78)	100
IC2 (2-3)	S-C	0	0	8	0	100
IC1 (1-2) IC1 (3-4)	S-C	0	0	8	0	100
R9	S-C	0	Unit damaged (no current measured)	8	Unit damaged (no current measured)	100
Supplementary information: Sc=Short circuit, Oc=Open circuit						

2.5	TABLE: Limited power sources (11040445.001)					N/A
Circuit output tested: See below.						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Test condition (Single fault)	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Supplementary information:						

2.5	TABLE: Limited power sources (PCB with fuses: F1, F2) (31581397.001)					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Test condition (Single fault)	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Model: KPL-060I-VI						
	Normal	16.18	5.56	8	89.96	100
R9	Sc	0	0	8	0	100
R9	Oc	16.18	4.41	8	69.77	100
IC1(A)	Sc	0	0	8	0	100
IC1(B)	Sc	0	0	8	0	100
IC1(A)	Oc	0	0	8	0	100

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Clause	Requirement + Test			Result - Remark		Verdict
IC1(B)	Oc	0	0	8	0	100
Model: KPL-066F-VI						
	Normal	12.24	7.20	8	84.96	100
R9	Sc	0	0	8	0	100
R9	Oc	12.23	6.07	8	71.75	100
IC1(A)	Sc	0	0	8	0	100
IC1(B)	Sc	0	0	8	0	100
IC1(A)	Oc	0	0	8	0	100
IC1(B)	Oc	0	0	8	0	100
Model: KPL-065J-VI						
	Normal	18.377	4.40	8	79.20	100
R9	Sc	0	0	8	0	100
R9	Oc	18.32	3.43	8	61.74	100
IC1(A)	Sc	0	0	8	0	100
IC1(B)	Sc	0	0	8	0	100
IC1(A)	Oc	0	0	8	0	100
IC1(B)	Oc	0	0	8	0	100
Model: KPL-065M-VI						
	Normal	24.66	3.93	8	95.5	100
R9	Sc	0	0	8	0	100
R9	Oc	24.67	2.81	8	68.76	100
IC1(A)	Sc	0	0	8	0	100
IC1(B)	Sc	0	0	8	0	100
IC1(A)	Oc	0	0	8	0	100
IC1(B)	Oc	0	0	8	0	100
Model: KPL-065S-VI						
	Normal	47.900	1.98	8	94.44	100
R9	Sc	0	0	8	0	100
R9	Oc	47.85	1.29	8	61.56	100
IC1(A)	Sc	0	0	8	0	100
IC1(B)	Sc	0	0	8	0	100
IC1(A)	Oc	0	0	8	0	100
Supplementary information: Sc=Short circuit, Oc=Open circuit						

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Clause	Requirement + Test			Result - Remark		Verdict
2.5	TABLE: Limited power sources (PCB with fuse: FUSE1) (15077081.001)					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Test condition (Single fault)	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Model: KPL-060I						
	Normal	15.72	5.83	8	91.65	100
R9	Sc	0.00	0.00	8	0.00	100
IC1(A)	Sc	0.00	0.00	8	0.00	100
IC1(B)	Sc	0.00	0.00	8	0.00	100
IC1(A)	Oc	0.00	0.00	8	0.00	100
IC1(B)	Oc	0.00	0.00	8	0.00	100
Model: KPL-065F						
	Normal	12.08	7.46	8	87.88	100
R9	Sc	0.00	0.00	8	0.00	100
IC1(A)	Sc	0.00	0.00	8	0.00	100
IC1(B)	Sc	0.00	0.00	8	0.00	100
IC1(A)	Oc	0.00	0.00	8	0.00	100
IC1(B)	Oc	0.00	0.00	8	0.00	100
Model: KPL-065J						
	Normal	18.03	4.52	8	81.18	100
R9	Sc	0.00	0.00	8	0.00	100
IC1(A)	Sc	0.00	0.00	8	0.00	100
IC1(B)	Sc	0.00	0.00	8	0.00	100
IC1(A)	Oc	0.00	0.00	8	0.00	100
IC1(B)	Oc	0.00	0.00	8	0.00	100
Model: KPL-065M						
	Normal	24.02	3.20	8	76.26	100
R9	Sc	0.00	0.00	8	0.00	100
IC1(A)	Sc	0.00	0.00	8	0.00	100
IC1(B)	Sc	0.00	0.00	8	0.00	100
IC1(A)	Oc	0.00	0.00	8	0.00	100
IC1(B)	Oc	0.00	0.00	8	0.00	100
Supplementary information:						
Sc=Short circuit, Oc=Open circuit						

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.4	Table: Resistance of earthing measurement (31581397.016)		P
	Location	Resistance measured (mΩ)	Comments
	Earth pin of AC inlet to PCB trace	2	32A, 2 minutes, Vdrop: 0.064V
	Earth pin of AC inlet to PCB trace	2.2	40A, 2 minutes, Vdrop: 0.088V
	Supplementary information: KPL [PCB with F1, F2]: Secondary GND disconnected from Earth GND		
2.6.3.4	Table: Resistance of earthing measurement (31581397.012)		P
	Location	Resistance measured (mΩ)	Comments
	Earth pin of AC inlet to Secondary FG on pad	8	32A, 2 minutes, Vdrop: 0.26V
	Earth pin of AC inlet to Secondary FG on pad	10	40A, 2 minutes, Vdrop: 0.40V
	Supplementary information:		
2.6.3.4	Table: Resistance of earthing measurement (31581397.010)		P
	Location	Resistance measured (mΩ)	Comments
	Earth pin of AC inlet to Secondary FG on pad	6	32A ,V= 32*6m =0.192V
	Earth pin of AC inlet to Secondary FG on pad	6	40A ,V= 40*38m =0.240V
	Supplementary information:		
2.6.3.4	Table: Resistance of earthing measurement (11040445.001)		P
	Location	Resistance measured (mΩ)	Comments
	Earth pin of AC inlet to output V-	10	32A, V= 32*10m =0.32V
	Earth pin of AC inlet to output V-	10	40A, V= 40*10m =0.4V
	Supplementary information:		
2.6.3.4	Table: Resistance of earthing measurement (PCB with fuses: F1, F2) (31581397.001)		P
	Location	Resistance measured (mΩ)	Comments
	Earth Pin of AC Inlet to PCB Trace (CY1 secondary pin)	6	32A, 2 minutes, Vdrop: 0.18V

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Clause	Requirement + Test	Result - Remark	Verdict

Earth Pin of AC Inlet to PCB Trace (CY1 secondary pin)	9	40A, 2 minutes, Vdrop: 0.35V	
Supplementary information:			

2.6.3.4	Table: Resistance of earthing measurement (PCB with fuse: FUSE1) (15077081.001)	P
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Location	Resistance measured (mΩ)	Comments
Earth Pin of AC Inlet to PCB Trace (CY1 secondary pin)	8	32A, 2 minutes, Vdrop: 0.26V
Earth Pin of AC Inlet to PCB Trace (CY1 secondary pin)	10	40A, 2 minutes, Vdrop: 0.40V
Supplementary information:		

2.10.2	Table: working voltage measurement (31581397.020)	P
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Location	RMS voltage (V)	Peak voltage (V)	Comments
MODEL: 2ACL068S			
PIN 1 to PIN 8,9	213	404	
PIN 1 to PIN 11,12	224	518	
PIN 3 to PIN 8,9	214	448	
PIN 3 to PIN 11,12	233	574	
PIN 4 to PIN 8,9	208	302	
PIN 4 to PIN 11,12	218	352	
PIN 6 to PIN 8,9	298	508	
PIN 6 to PIN 11,12	351	556	
IC1: Pin 3 — Pin 1	192	378	
IC1: Pin 3 — Pin 2	190	376	
IC1: Pin 4 — Pin 1	191	378	
IC1: Pin 4 — Pin 2	189	378	
Primary to Secondary at CY1	173	352	
Supplementary information: Input: 240Vac, 50Hz Output: +54V/1.25A, total 68W;			

2.10.2	Table: working voltage measurement (31581397.016)	P
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Location	RMS voltage (V)	Peak voltage (V)	Comments
MODEL: KPL-065A-KV			
T1 PIN 1 to PIN 8	177	350	
T1 PIN 1 to PIN 11,12	184	382	

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Clause	Requirement + Test	Result - Remark	Verdict
T1 PIN 3 to PIN 8	236	346	
T1 PIN 3 to PIN 11,12	243	440	
T1 PIN 4 to PIN 8	178	392	
T1 PIN 4 to PIN 11,12	178	374	
T1 PIN 6 to PIN 8	313	516	
T1 PIN 6 to PIN 11,12	282	496	
IC1: Pin 3 — Pin 1	176	348	
IC1: Pin 3 — Pin 2	175	342	
IC1: Pin 4 — Pin 1	173	348	
IC1: Pin 4 — Pin 2	175	350	
Primary to Secondary at CY1	175	348	
Supplementary information: Input: 240Vac, 50Hz Output: +36V/1.81A, total 65W;			

2.10.2	Table: working voltage measurement (31581397.014)			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
MODEL: 2ACL030B				
PIN 1 to PIN 7		185	376	
PIN 1 to PIN 8		184	356	
PIN 1 to PIN 11		185	390	
PIN 3 to PIN 7		183	430	
PIN 3 to PIN 8		187	516	
PIN 3 to PIN 11		191	552	
PIN 4 to PIN 7		235	408	
PIN 4 to PIN 8		233	340	
PIN 4 to PIN 11		233	346	
PIN 6 to PIN 7		258	452	
PIN 6 to PIN 8		269	476	
PIN 6 to PIN 11		278	484	
IC1: Pin 3 — Pin 1		181	356	
IC1: Pin 3 — Pin 2		180	358	
IC1: Pin 4 — Pin 1		181	356	
IC1: Pin 4 — Pin 2		180	354	
Primary to Secondary at CY1		178	346	
MODEL: KPL-065U-VI				
PIN 1 to PIN 8,9		174	358	
PIN 1 to PIN 11,12		189	420	
PIN 3 to PIN 8,9		246	352	
PIN 3 to PIN 11,12		257	478	
PIN 4 to PIN 8,9		176	408	

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Clause	Requirement + Test	Result - Remark	Verdict
PIN 4 to PIN 11,12	180	398	
PIN 6 to PIN 8,9	324	544	
PIN 6 to PIN 11,12	283	484	
IC1: Pin 3 — Pin 1	198	396	
IC1: Pin 3 — Pin 2	200	398	
IC1: Pin 4 — Pin 1	201	402	
IC1: Pin 4 — Pin 2	201	404	
Primary to Secondary at CY1	174	364	
Supplementary information: Input: 240Vac, 50Hz Output: +5V/6A, total 30W(2ACL030B), +56V/1.16A, total 65W(KPL-065U-VI)			

2.10.2	Table: working voltage measurement (31581397.012)			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
MODEL: GTR0382				
PIN 1 to PIN 6		234	330	
PIN 1 to PIN 7		233	338	
PIN 3 to PIN 6		284	484	
PIN 3 to PIN 7		298	500	Max. Vrms of T1
PIN 10 to PIN 6		187	462	
PIN 10 to PIN 7		192	530	Max. Vpeak of T1
PIN 12 to PIN 6		182	368	
PIN 12 to PIN 7		183	434	
IC1: Pin 3 — Pin 1		181	370	
IC1: Pin 3 — Pin 2		181	368	
IC1: Pin 4 — Pin 1		181	366	
IC1: Pin 4 — Pin 2		180	364	
Primary to Secondary at CY1		173	350	
Supplementary information: Input: 240Vac, 50Hz Output: +5.2V/3.8A, +12V/1.5A, total 38W				

2.10.2	Table: working voltage measurement (31581397.010)			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
MODEL: 2ACL060K				
PIN 1 to PIN 8		173	350	
PIN 1 to PIN 11		177	400	
PIN 3 to PIN 8		188	410	
PIN 3 to PIN 11		194	466	

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Clause	Requirement + Test	Result - Remark	Verdict
PIN 4 to PIN 8	228	320	
PIN 4 to PIN 11	230	340	
PIN 6 to PIN 8	306	544	
PIN 6 to PIN 11	329	556	
IC1: Pin 3 — Pin 1	186	368	
IC1: Pin 3 — Pin 2	185	364	
IC1: Pin 4 — Pin 1	183	364	
IC1: Pin 4 — Pin 2	184	362	
Primary to Secondary at CY1	172	346	
MODEL: 2ACL060M			
PIN 1 to PIN 8	173	376	
PIN 1 to PIN 11	177	422	
PIN 3 to PIN 8	188	424	
PIN 3 to PIN 11	194	476	
PIN 4 to PIN 8	228	320	
PIN 4 to PIN 11	230	346	
PIN 6 to PIN 8	306	568	
PIN 6 to PIN 11	329	600	Max. Vpeak and Max. Vrms of T1(PQ2620-19)
IC1: Pin 3 — Pin 1	186	366	
IC1: Pin 3 — Pin 2	189	370	
IC1: Pin 4 — Pin 1	187	368	
IC1: Pin 4 — Pin 2	189	368	
Primary to Secondary at CY1	169	342	
MODEL: 2ACL065R			
PIN 1 to PIN 8	206	394	
PIN 1 to PIN 11	218	506	
PIN 3 to PIN 8	212	436	
PIN 3 to PIN 11	228	552	
PIN 4 to PIN 8	206	296	
PIN 4 to PIN 11	213	340	
PIN 6 to PIN 8	292	500	
PIN 6 to PIN 11	341	552	
IC1: Pin 3 — Pin 1	189	376	
IC1: Pin 3 — Pin 2	188	374	
IC1: Pin 4 — Pin 1	189	374	
IC1: Pin 4 — Pin 2	189	374	
Primary to Secondary at CY1	173	352	Max. Vpeak and Max. Vrms of CY1
MODEL: 2ACL065S			
PIN 1 to PIN 8	210	400	
PIN 1 to PIN 11	223	516	

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Clause	Requirement + Test		Verdict
PIN 3 to PIN 8	212	446	
PIN 3 to PIN 11	233	566	
PIN 4 to PIN 8	209	298	
PIN 4 to PIN 11	217	350	
PIN 6 to PIN 8	299	532	
PIN 6 to PIN 11	353	576	
IC1: Pin 3 — Pin 1	188	372	
IC1: Pin 3 — Pin 2	187	372	
IC1: Pin 4 — Pin 1	188	372	
IC1: Pin 4 — Pin 2	187	372	
Primary to Secondary at CY1	169	344	
MODEL: 2ACL065U			
PIN 1 to PIN 8	215	412	
PIN 1 to PIN 11	225	524	
PIN 3 to PIN 8	216	452	
PIN 3 to PIN 11	237	564	
PIN 4 to PIN 8	205	294	
PIN 4 to PIN 11	216	354	
PIN 6 to PIN 8	298	548	
PIN 6 to PIN 11	354	596	Max. Vpeak and Max. Vrms of T1 (PQ2620-48)
IC1: Pin 3 — Pin 1	196	384	Max. Vpeak and Max. Vrms of IC1
IC1: Pin 3 — Pin 2	195	380	
IC1: Pin 4 — Pin 1	194	382	
IC1: Pin 4 — Pin 2	193	380	
Primary to Secondary at CY1	170	348	
Primary to primary before fuse	240	352	
L to ground before fuse	240	352	
N to ground before fuse	0.402	1.00	
Supplementary information: Input: 240Vac, 50Hz Output: +19V/3.16A, +24V/2.5A, total 60W; +48V/1.35A, +54V/1.2A, +56V/1.16A, total 65W;			

2.10.2	Table: working voltage measurement (11040445.001)			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
MODEL: 2ABF065F				
T1 pin 1 to pin 8,9		211	400	
T1 pin 1 to pin 11,12		213	452	
T1 pin 3 to pin 8,9		214	468	
T1 pin 3 to pin 11,12		221	520	

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Clause	Requirement + Test	Result - Remark	Verdict
T1 pin 4 to pin 8,9	240	356	
T1 pin 4 to pin 11,12	245	368	
T1 pin 6 to pin 8,9	311	552	
T1 pin 6 to pin 11,12	325	560	Max. Vpeak and Max. Vrms of T1
CY1 primary to secondary	203	392	
U4 pin 1 to pin 3	206	396	
U4 pin 1 to pin 4	207	398	
U4 pin 2 to pin 3	206	396	
U4 pin 2 to pin 4	207	398	
MODEL: 2ABF065R			
T1 pin 1 to pin 8,9	239	436	
T1 pin 1 to pin 11,12	251	560	
T1 pin 3 to pin 8,9	241	480	
T1 pin 3 to pin 11,12	258	612	Max. Vpeak of T1
T1 pin 4 to pin 8,9	220	332	
T1 pin 4 to pin 11,12	232	384	
T1 pin 6 to pin 8,9	309	528	
T1 pin 6 to pin 11,12	362	568	Max. Vrms of T1
CY1 primary to secondary	203	392	
U4 pin 1 to pin 3	206	396	
U4 pin 1 to pin 4	207	398	
U4 pin 2 to pin 3	206	396	
U4 pin 2 to pin 4	207	398	
Supplementary information:			
1. Test voltage: 240Vac, 60Hz			
2. Other trace to trace voltages are measured not more than 250Vrms and 420Vpeak.			
3. Tested at maximum load condition.			

2.10.2	Table: working voltage measurement (PCB with fuses: F1, F2) (31581397.001)			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
Model: KPL-060I-VI				
T1 Pin 1	T1 Pin 8, 9	139	172	
T1 Pin 1	T1 Pin 11, 12	170	194	
T1 Pin 3	T1 Pin 8, 9	269	280	
T1 Pin 3	T1 Pin 11, 12	273	318	
T1 Pin 4	T1 Pin 8, 9	170	224	
T1 Pin 4	T1 Pin 11, 12	158	182	
T1 Pin 6	T1 Pin 8, 9	317	510	Max. Vpk & Vrms
T1 Pin 6	T1 Pin 11, 12	317	490	
CY1 Pin 1	CY1 Pin 2	136	176	

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Clause	Requirement + Test		Result - Remark	Verdict
IC1 Pin 1	IC1 Pin 3	150	190	
IC1 Pin 1	IC1 Pin 4	154	188	
IC1 Pin 2	IC1 Pin 3	155	188	
IC1 Pin 2	IC1 Pin 4	154	186	
Model: KPL-066F-VI				
T1 Pin 1	T1 Pin 8, 9	116	172	
T1 Pin 1	T1 Pin 11, 12	141	184	
T1 Pin 3	T1 Pin 8, 9	236	282	
T1 Pin 3	T1 Pin 11, 12	277	322	
T1 Pin 4	T1 Pin 8, 9	162	220	
T1 Pin 4	T1 Pin 11, 12	117	180	
T1 Pin 6	T1 Pin 8, 9	288	490	Max. Vpk & Vrms
T1 Pin 6	T1 Pin 11, 12	274	472	
CY1 Pin 1	CY1 Pin 2	117	174	
IC1 Pin 1	IC1 Pin 3	180	196	
IC1 Pin 1	IC1 Pin 4	139	198	
IC1 Pin 2	IC1 Pin 3	184	200	
IC1 Pin 2	IC1 Pin 4	174	196	
Model: KPL-065J-VI				
T1 Pin 1	T1 Pin 8, 9	116	172	
T1 Pin 1	T1 Pin 11, 12	153	190	
T1 Pin 3	T1 Pin 8, 9	247	280	
T1 Pin 3	T1 Pin 11, 12	264	334	
T1 Pin 4	T1 Pin 8, 9	146	216	
T1 Pin 4	T1 Pin 11, 12	121	184	
T1 Pin 6	T1 Pin 8, 9	312	442	Max. Vpk & Vrms
T1 Pin 6	T1 Pin 11, 12	304	416	
CY1 Pin 1	CY1 Pin 2	117	174	
IC1 Pin 1	IC1 Pin 3	148	204	
IC1 Pin 1	IC1 Pin 4	194	208	
IC1 Pin 2	IC1 Pin 3	189	206	
IC1 Pin 2	IC1 Pin 4	143	200	
Model: KPL-065M-VI				
T1 Pin 1	T1 Pin 8, 9	137	174	
T1 Pin 1	T1 Pin 11, 12	169	200	
T1 Pin 3	T1 Pin 8, 9	266	276	
T1 Pin 3	T1 Pin 11, 12	261	332	
T1 Pin 4	T1 Pin 8, 9	163	214	
T1 Pin 4	T1 Pin 11, 12	168	184	
T1 Pin 6	T1 Pin 8, 9	338	468	Max. Vpk & Vrms
T1 Pin 6	T1 Pin 11, 12	320	436	
CY1 Pin 1	CY1 Pin 2	141	176	

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Clause	Requirement + Test		Result - Remark	Verdict
IC1 Pin 1	IC1 Pin 3	165	198	
IC1 Pin 1	IC1 Pin 4	161	194	
IC1 Pin 2	IC1 Pin 3	156	198	
IC1 Pin 2	IC1 Pin 4	162	194	
Model: KPL-065S-VI				
T1 Pin 1	T1 Pin 8, 9	137	172	
T1 Pin 1	T1 Pin 11, 12	177	226	
T1 Pin 3	T1 Pin 8, 9	258	270	
T1 Pin 3	T1 Pin 11, 12	270	390	
T1 Pin 4	T1 Pin 8, 9	165	216	
T1 Pin 4	T1 Pin 11, 12	162	204	
T1 Pin 6	T1 Pin 8, 9	328	466	Max. Vpk & Vrms
T1 Pin 6	T1 Pin 11, 12	293	406	
CY1 Pin 1	CY1 Pin 2	134	176	
IC1 Pin 1	IC1 Pin 3	165	218	
IC1 Pin 1	IC1 Pin 4	191	214	
IC1 Pin 2	IC1 Pin 3	207	224	
IC1 Pin 2	IC1 Pin 4	192	202	
Supplementary information: Test voltage: 240 Vac, 60Hz				

2.10.2	Table: working voltage measurement (PCB with fuse: FUSE1) (15077081.001)			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
Model: KPL-060I				
T1 Pin 1	T1 Pin 8, 9	172	344	
T1 Pin 1	T1 Pin 11, 12	173	360	
T1 Pin 3	T1 Pin 8, 9	245	348	
T1 Pin 3	T1 Pin 11, 12	246	384	
T1 Pin 4	T1 Pin 8, 9	173	392	
T1 Pin 4	T1 Pin 11, 12	171	352	
T1 Pin 6	T1 Pin 8, 9	317	556	Max. Vpk & Vrms
T1 Pin 6	T1 Pin 11, 12	304	532	
CY1 Pin 1	CY1 Pin 2	171	344	
IC1 Pin 1	IC1 Pin 3	180	360	
IC1 Pin 1	IC1 Pin 4	184	364	
IC1 Pin 2	IC1 Pin 3	182	360	
IC1 Pin 2	IC1 Pin 4	180	358	
Model: KPL-065F				
T1 Pin 1	T1 Pin 8, 9	170	340	

IEC 60950-1				
Clause	Requirement + Test		Result - Remark	Verdict
T1 Pin 1	T1 Pin 11, 12	171	352	
T1 Pin 3	T1 Pin 8, 9	346	346	
T1 Pin 3	T1 Pin 11, 12	248	386	
T1 Pin 4	T1 Pin 8, 9	172	390	
T1 Pin 4	T1 Pin 11, 12	170	358	
T1 Pin 6	T1 Pin 8, 9	316	532	Max. Vpk & Vrms
T1 Pin 6	T1 Pin 11, 12	304	512	
CY1 Pin 1	CY1 Pin 2	172	344	
IC1 Pin 1	IC1 Pin 3	180	350	
IC1 Pin 1	IC1 Pin 4	180	356	
IC1 Pin 2	IC1 Pin 3	172	358	
IC1 Pin 2	IC1 Pin 4	176	358	
Model: KPL-065J				
T1 Pin 1	T1 Pin 8, 9	170	340	
T1 Pin 1	T1 Pin 11, 12	174	360	
T1 Pin 3	T1 Pin 8, 9	246	348	
T1 Pin 3	T1 Pin 11, 12	248	406	
T1 Pin 4	T1 Pin 8, 9	172	380	
T1 Pin 4	T1 Pin 11, 12	171	354	
T1 Pin 6	T1 Pin 8, 9	316	512	Max. Vpk & Vrms
T1 Pin 6	T1 Pin 11, 12	304	492	
CY1 Pin 1	CY1 Pin 2	171	344	
IC1 Pin 1	IC1 Pin 3	183	360	
IC1 Pin 1	IC1 Pin 4	181	356	
IC1 Pin 2	IC1 Pin 3	181	362	
IC1 Pin 2	IC1 Pin 4	180	366	
Model: KPL-065M				
T1 Pin 1	T1 Pin 8, 9	172	344	
T1 Pin 1	T1 Pin 11, 12	176	372	
T1 Pin 3	T1 Pin 8, 9	244	348	
T1 Pin 3	T1 Pin 11, 12	248	412	
T1 Pin 4	T1 Pin 8, 9	174	388	
T1 Pin 4	T1 Pin 11, 12	172	356	
T1 Pin 6	T1 Pin 8, 9	324	540	Max. Vpk & Vrms
T1 Pin 6	T1 Pin 11, 12	302	520	
CY1 Pin 1	CY1 Pin 2	172	348	
IC1 Pin 1	IC1 Pin 3	188	368	
IC1 Pin 1	IC1 Pin 4	185	364	
IC1 Pin 2	IC1 Pin 3	186	364	
IC1 Pin 2	IC1 Pin 4	184	360	

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:
Test voltage: 240 Vac, 60Hz

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements (31581397.012)						P
Clearance (cl) and creepage distance (cr) at/of/between:		U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Functional: AC I/P (GTR)							
Line to Neutral before fuse		420	250	2.3	6.9	2.5	6.9
Trace under fuse		420	250	2.3	3.0	2.5	3.0
Basic							
Primary trace to earthed trace		420	250	3.0	See below	3.0	See below
Between L/N to earth pin in AC inlet					4.5		4.5
Reinforced:							
PCB trace under T1		530	298	6.6	8.1	6.6	8.1
Primary to Secondary at CY1		350	173	6.0	6.9	6.0	6.9
Primary to Secondary at Optos		370	181	6.0	7.3	6.0	7.3
Supplementary information: 1. Functional insulation shorted, see 5.3.4. 2. Glued components: None.							

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements (31581397.010)						P
Clearance (cl) and creepage distance (cr) at/of/between:		U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Functional: AC I/P (2ACL)							
Line to Neutral before fuse		420	250	2.3	4.1	2.5	4.1
Trace under fuse		420	250	2.3	2.8	2.5	2.8
Basic							
Primary trace to earthed trace		420	250	3.0	See below	3.0	See below
Between L/N to earth pin in AC inlet					3.0		3.0
Reinforced:							
PCB trace under T1		600	354	6.9	7.3	7.1	7.3
Primary to Secondary at CY1		352	173	6.0	7.2	6.0	7.2
Primary to Secondary at Optos		384	196	6.0	6.7	6.0	6.7

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

1. Functional insulation shorted, see 5.3.4.
2. Glued components: None.
3. Two layers of insulation tape wrapped around the heatsink for Q2 (near secondary side).

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements (11040445.001)						P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Functional:							
L/N before fuse	420	250	2.3	4.1	2.5	4.1	
Trace under fuse	420	250	2.3	2.8	2.5	2.8	
Basic							
Primary trace to earthed trace	420	250	3.0	See below	3.0	See below	
-Between L/N to earth pin in AC inlet				3.0		3.0	
Reinforced:							
Primary components (with 10N) to user accessible part	420	250	6.0	See below	6.0	See below	
-Primary components to enclosure outer				6.0		6.0	
Primary components (with 10N) to secondary components (with 10N)	420	250	6.0	See below	6.0	See below	
-T1 to C6				6.0		6.0	
-T1 to C5				6.0		6.0	
-C1 to secondary heat sink				6.0		6.0	
Primary trace to secondary trace	420	250	6.0	See below	6.0	See below	
-Under CY1				6.5		6.5	
-Under U4				6.7		6.7	
-Under T1 (12V)	560	325	6.6	7.3	6.6	7.3	
-Under T1 (48V)	612	362	6.9	7.3	7.3	7.3	
-Under C9 o CY1 primary pin	420	250	6.0	7.1	6.0	7.1	
Supplementary information:							
1. Functional insulation shorted, see 5.3.4.							
2. Glued components: None.							
3. Two layers of insulation tape wrapped around the heatsink for Q1 (near secondary side).							

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements (PCB with fuses: F1, F2) (31581397.001) (31581397.014 modified)					P
Clearance (cl) and creepage distance (cr) at/of/between:		U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm) cr (mm)
Functional:						
L/N before fuse		420	250	2.22	3.2	2.5 3.2
Basic/supplementary:						
LF1 to inlet GND pin (with 10N)		420	250	2.96	5.2	2.96 5.3
Reinforced:						
C5 (with 10N) to D3 heat-sink		420	250	5.92	7.60	5.92 7.60
T1 top heat-sink to C6 or C7		544	338	6.68	7.60	6.76 7.60
T1 top heat-sink to D3 heat-sink		544	338	6.68	9.30	6.76 9.30
Q1 heat-sink to CY1 secondary leg		420	250	5.92	6.50	5.92 6.50
Under CY1		420	250	5.92	7.80	5.92 7.80
Under IC1		420	250	5.92	7.00	5.92 7.00
Under T1		544	338	6.68	7.80	6.76 7.80
Supplementary information:						
1. The specified maximum altitude of operation by the manufacturer for this product is 5000 meters. Therefore, the altitude correction factor for clearance is calculated and used with linear interpolation 1.48 according to IEC 60664-1 Table A.2						
2. Output cable is fixed in PCB reliable by solder pins and glue.						
3. Glued components (safety relevant): T1 top heat-sink, C2, C5 and output cable.						
4. For clearance and creepage did not describe above are far larger than limit above.						

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements (PCB with fuse: FUSE1) (15077081.001)					P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Functional:						
L/N before fuse	420	250	2.22	3.2	2.5	3.2
Trace under fuse	420	250	2.22	2.6	2.5	2.6
Basic/supplementary:						
Primary components to Earth	420	250	2.96	See below	2.96	See below
LF1 to inlet GND pin (with 10N)	420	250	2.96	3.8	2.96	5.2

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Clause	Requirement + Test			Result - Remark		Verdict
EMI shielding to primary component/trace	420	250	2.96	7.0	2.96	7.0
Reinforced:						
Primary components (with 10N) to secondary components (with 10N)	420	250	5.92	See below	5.92	See below
T1 top heat-sink to C6 or C7	556	324	6.52	7.0	6.8	--
T1 top heat-sink to external enclosure surface	556	324	6.52	7.0	6.8	7.0
Q1 heat-sink to CY1 secondary leg	420	250	5.92	6.4	5.92	6.4
Primary trace to secondary trace	420	250	5.92	See below	5.92	See below
trace N to trace of D3 heatsink	420	250	5.92	6.7	5.92	6.7
Under CY1	420	250	5.92	6.7	5.92	6.7
Under IC1	420	250	5.92	7.0	5.92	7.0
Under T1	556	324	6.52	7.0	6.8	7.0
Secondary EMI shielding to primary component/trace	420	250	5.92	7.0	5.92	7.0
Supplementary information:						
1. Functional insulation shorted, see 5.3.4. 2. Output cable is fixed in PCB reliable by solder pins and glue. 3. The clearance insulation distance of primary components to enclosure surface with mechanical construction is kept at least 5.0 mm. 4. Glued components (safety relevant): FUSE1, T1 top heat-sink, C2, C18 and output cable. 5. One insulator sheet is place between PCB and EMI shielding to keep sufficient creepage and clearance distance for reinforced insulation request. 6. There is two layers of insulation tape was fixed on D3 heat-sink and Q1 heat-sink to keep sufficient creepage and clearance distance for reinforced insulation request. 7. For clearance and creepage did not describe above are far larger than limit above.						

2.10.5	TABLE: Distance through insulation measurements (31581397.012)					P
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)	
Optical isolators	420	250	AC3000	See appended table 1.5.1.	See appended table 1.5.1.	
Enclosure (reinforced insulation)	420	250	AC 3000	0.4	1.5	
Supplementary information:						
Model: GTR0382						

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Clause	Requirement + Test	Result - Remark	Verdict

2.10.5	TABLE: Distance through insulation measurements (31581397.010)					P
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Optical isolators		420	250	AC3000	See appended table 1.5.1.	See appended table 1.5.1.
Insulation sheet (reinforced insulation)		420	250	AC 3000	0.4	0.4 min.
Enclosure (reinforced insulation)		420	250	AC 3000	0.4	1.5
Supplementary information:						

2.10.5	TABLE: Distance through insulation measurements (11040445.001)					P
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Optical isolators		420	250	AC3000	See appended table 1.5.1.	See appended table 1.5.1.
Insulation sheet (reinforced insulation)		420	250	AC 3000	0.4	0.4 min.
Enclosure (reinforced insulation)		420	250	AC 3000	0.4	1.5
Supplementary information:						

2.10.5	TABLE: Distance through insulation measurements (PCB with fuses: F1, F2) (31581397.001)					P
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Enclosure (reinforced insulation)		420	250	AC3000	0.4	1)
Photo coupler (reinforced insulation)		420	250	AC3000	0.4	1)
Supplementary information: 1). See appended table 1.5.1						

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Clause	Requirement + Test	Result - Remark	Verdict

2.10.5	TABLE: Distance through insulation measurements (PCB with fuse: FUSE1) (15077081.001)					P
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Enclosure (reinforced insulation)		420	250	AC3000	0.4	1)
Photo coupler (reinforced insulation)		420	250	AC3000	0.4	1)
Insulator sheet (reinforced insulation)		420	250	AC3000	0.4	1)
Supplementary information:						
1). See appended table 1.5.1						

4.3.8	TABLE: Batteries								N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available									N/A
Is it possible to install the battery in a reverse polarity position?									N/A
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition									
Max. current during fault condition									
Test results:									Verdict
- Chemical leaks									N/A
- Explosion of the battery									N/A
- Emission of flame or expulsion of molten metal									N/A
- Electric strength tests of equipment after completion of tests									N/A
Supplementary information:									

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Clause	Requirement + Test	Result - Remark	Verdict

4.3.8	TABLE: Batteries	N/A
Battery category: (Lithium, NiMh, NiCad, Lithium Ion ...)		
Manufacturer:		
Type / model.....:		
Voltage:		
Capacity: mAh		
Tested and Certified by (incl. Ref. No.).....:		
Circuit protection diagram:		

MARKINGS AND INSTRUCTIONS (1.7.13)	
Location of replaceable battery	
Language(s)	
Close to the battery	
In the servicing instructions	
In the operating instructions	

4.5	TABLE: Thermal requirements (31581397.020)					P
	Supply voltage (V).....	See below	See below	See below	See below	—
	Ambient T _{min} (°C).....	--	--			—
	Ambient T _{max} (°C).....	--	--			—
Maximum temperature T of part/at.....		T (°C)				Allowed T _{max} (°C)
Model: 2ACL068S		90V Note1	264V Note2	90V Note3	264V Note4	
AC Inlet		48.2	43.9	46.3	43.6	60
Internal input wire		67.3	58.3	64.9	57.5	95
TVS1 body		70.9	64.8	68.1	63.9	75
CX1 body		86.5	70.3	83.5	69.3	90
LF1 coil		92.4	71.2	89.2	70.2	120
LF2 coil		85.0	69.8	82.1	68.9	120
PCB near BD1		96.8	74.9	92.7	73.1	120
C2 body		85.4	73.1	83.1	72.6	95
T1 coil		91.4	85.3	89.1	84.8	100
T1 core		89.9	83.7	87.1	82.9	100
CY1 body		81.1	74.8	78.3	74.1	115
IC1 body		83.0	77.4	80.4	76.9	90
PCB near Q2		84.7	84.4	82.1	83.7	120

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Clause	Requirement + Test			Result - Remark		Verdict	
PCB near Q1	93.5	79.8	89.5	78.3	120		
L1 winding	62.1	59.3	60.3	59.4	120		
C6 body	71.3	68.0	69.1	67.7	95		
Output cord	46.0	45.1	45.3	45.2	70		
Internal plastic enclosure above T1	70.0	65.3	69.2	65.9	75		
External plastic enclosure above T1	59.0	55.6	59.5	57.4	75		
Ambient	31.7	31.8	30.3	31.9	---		
Supplementary information: Note 1) label down - 90V/60Hz Note 2) label down - 264V/50Hz Note 3) label Up - 90V/60Hz Note 4) label Up - 264V/50Hz							
Supplementary information: ● The temperatures were measured under the maximum rated output defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above. ● With a maximum ambient temperature of +40°C as declared by the manufacturer. ● Winding components (providing safety isolation): - Class (B) T_{max} = 120°C - 10°C= 110°C							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:							

4.5	TABLE: Thermal requirements (31581397.016)					P	
	Supply voltage (V)..... :	See below	See below	See below	See below	—	
	Ambient T _{min} (°C)..... :	--	--			—	
	Ambient T _{max} (°C)..... :	--	--			—	
Maximum temperature T of part/at..... :		T (°C)				Allowed T _{max} (°C)	
Model: KPL-065A-KV(36V/1.81A) (LF2: T10*6*5+C)		90V Note1	264V Note2	90V Note3	264V Note4		
AC Inlet (70°C)		59.2	51.5	58.0	53.0	70	
TVS1 body (85°C)		66.8	55.7	67.1	56.3	85	
TVS2 body (85°C)		78.7	63.3	78.6	63.8	85	
CX1 body (100°C)		81.6	65.8	81.1	66.2	100	
LF1 coil (130°C)		111.5	78.2	110.4	78.7	130	
LF2 coil (130°C)		104.7	75.2	103.5	75.5	130	
PCB near BD1 (130°C)		117.7	81.2	116.1	81.1	130	

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Clause	Requirement + Test			Result - Remark	
C2 body (105°C)	98.7	77.7	97.8	78.0	105
T1 coil (Class B)	95.7	87.2	95.7	87.9	110
T1 core (Class B)	88.5	80.3	88.9	81.4	110
PCB under T1 (130°C)	88.1	80.0	87.7	80.1	130
CY1 body (125°C)	87.5	75.9	88.1	76.8	125
IC1 body (100C)	89.1	77.8	88.7	78.5	100
PCB near Q1 (130°C)	106.8	83.7	105.9	83.8	130
PCB near D3 (130C)	98.5	92.5	98.5	92.8	130
C6 body (105°C)	92.5	85.7	92.3	86.0	105
Internal plastic enclosure above T1	78.4	70.6	78.8	72.0	105
External plastic enclosure above T1 (95°C)	68.6	62.7	71.1	65.8	95
Output cord (80°C)	47.7	47.1	47.2	47.2	80
Ambient	40.0	40.0	40.0	40.0	--
Supplementary information:					
Note 1) label down - 90V/60Hz					
Note 2) label down - 264V/50Hz					
Note 3) label Up - 90V/60Hz					
Note 4) label Up - 264V/50Hz					
Model: KPL-065A-KV(36V/1.81A) (LF2: T12.7*7.9*5C)	90V Note1	264V Note2	90V Note3	264V Note4	
AC Inlet (70°C)	56.7	51.1	58.5	52.3	70
TVS1 body (85°C)	67.6	55.5	66.6	55.6	85
TVS2 body (85°C)	77.8	62.3	76.9	62.5	85
CX1 body (100°C)	81.2	65.1	80.0	65.2	100
LF1 coil (130°C)	114.2	79.0	113.3	79.4	130
LF2 coil (130°C)	104.4	74.8	103.3	75.1	130
PCB near BD1 (130°C)	119.1	81.5	117.6	81.4	130
C2 body (105°C)	100.0	78.5	98.6	78.6	105
T1 coil (Class B)	96.2	87.3	95.8	87.9	110
T1 core (Class B)	88.9	80.3	88.8	81.4	110
PCB under T1 (130°C)	88.7	79.8	87.6	80.2	130
CY1 body (125°C)	88.2	76.0	88.6	77.1	125
IC1 body (100C)	89.8	78.1	88.6	78.5	100
PCB near Q1 (130°C)	107.6	83.6	106.3	84.0	130
PCB near D3 (130C)	98.8	92.0	97.9	92.5	130
C6 body (105°C)	92.7	85.3	91.8	85.6	105
Internal plastic enclosure above T1	78.9	71.0	79.2	72.4	105
External plastic enclosure above T1 (95°C)	70.2	64.5	71.5	66.3	95
Output cord (80°C)	49.5	48.0	49.4	48.8	80
Ambient	40.0	40.0	40.0	40.0	--

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Clause	Requirement + Test				Result - Remark		Verdict
Supplementary information: Note 1) label down - 90V/60Hz Note 2) label down - 264V/50Hz Note 3) label Up - 90V/60Hz Note 4) label Up - 264V/50Hz							
Model: KPL-066F-VI(12V/5.5A) (LF2: T12.7*7.9*5C)	90V Note1	264V Note2	90V Note3	264V Note4			
AC Inlet (70°C)	55.7	51.6	58.2	54.1	70		
TVS1 body (85°C)	68.1	59.8	68.7	60.1	85		
CX1 body (100°C)	74.6	66.0	76.0	66.6	100		
LF1 coil (130°C)	105.2	80.7	105.9	81.6	130		
LF2 coil (130°C)	91.0	74.3	92.1	75.0	130		
PCB near BD1 (130°C)	100.2	78.5	101.1	79.0	130		
C2 body (105°C)	95.7	84.0	96.8	84.8	105		
T1 coil (Class B)	98.4	94.0	99.0	94.1	110		
T1 core (Class B)	93.4	87.5	94.4	89.3	110		
CY1 body (125°C)	82.2	78.1	84.1	79.4	125		
IC1 body (100C)	84.9	79.5	85.9	80.3	100		
PCB near Q1 (130°C)	97.1	89.0	98.2	89.7	130		
PCB near D3 (130C)	101.7	99.2	101.4	98.6	130		
C6 body (105°C)	98.7	95.9	98.4	95.3	105		
C7 body (105°C)	92.9	90.0	92.7	89.3	105		
PCB under T1 (130°C)	88.8	85.2	89.2	85.3	130		
Internal plastic enclosure above T1	82.1	78.8	80.4	77.0	105		
External plastic enclosure above T1 (95°C)	74.8	71.5	72.5	69.1	95		
Output cord (80°C)	52.9	52.4	51.9	51.1	80		
Ambient	40.0	40.0	40.0	40.0	--		
Supplementary information: Note 1) label down - 90V/60Hz Note 2) label down - 264V/50Hz Note 3) label Up - 90V/60Hz Note 4) label Up - 264V/50Hz							
Supplementary information: ● The temperatures were measured under the maximum rated output defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above. ● With a maximum ambient temperature of +40°C for KPL-xy-VI or KPL-xy-KV or KPL-xy-II x=065,066 as declared by the manufacturer. ● Winding components (providing safety isolation): - Class (B) Tmax = 120°C - 10°C= 110°C							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class

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Clause	Requirement + Test			Result - Remark			Verdict

Supplementary information:							

4.5	TABLE: Thermal requirements (31581397.014)					P
	Supply voltage (V)..... :	See below	See below	See below	See below	—
	Ambient T _{min} (°C)..... :	--	--			—
	Ambient T _{max} (°C)..... :	--	--			—
Maximum temperature T of part/at.....:		T (°C)				Allowed T _{max} (°C)
Model: 2ACL030B(5V/6A)		90V Note1	264V Note2	90V Note3	264V Note4	
Ambient		29.3	29.3	29.7	28.9	--
Inlet body		46.0	42.1	46.6	41.1	49
Enclosure inside near T1		61.7	58.2	62.1	57.5	64
Enclosure outside near T1		55.3	52.5	55.1	51.2	64
TVS1 body		49.1	44.7	50.0	44.2	64
CX1 body		60.6	54.0	61.1	53.3	79
LF1 coil		63.0	54.8	63.4	54.1	109
LF2 coil		56.9	51.1	58.4	51.0	109
PWB near BD1		71.8	62.3	71.9	61.2	109
PWB near Q1		75.5	69.8	74.9	68.6	109
C2 body		72.0	63.1	73.1	62.1	84
T1 coil		77.2	71.3	77.1	70.4	89
T1 core		72.0	67.3	72.2	66.4	89
CY1 body		64.9	61.0	65.3	60.5	104
IC1 body		69.1	63.1	69.7	62.5	79
PWB near Q2		72.5	65.5	73.1	65.3	109
Q1 body		74.2	70.0	74.0	68.8	129
Q2 body		71.4	63.6	71.9	63.1	129
Input wire		44.6	41.1	45.3	40.1	84
Output wire		54.6	51.5	54.7	50.7	59
Supplementary information:						
Note 1) label down - 90V/60Hz						
Note 2) label down - 264V/50Hz						
Note 3) label Up - 90V/60Hz						
Note 4) label Up - 264V/50Hz						
Model: KPL-065U-VI(56V/1.16A)		90V Note1	264V Note2	90V Note3	264V Note4	
Ambient		31.9	30.6	31.7	30.1	--
AC Inlet		55.8	46.8	55.5	47.1	60
CX1 body		73.2	59.4	72.6	59.6	90

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Clause	Requirement + Test			Result - Remark	Verdict

LF1 coil	95.8	70.1	94.6	70.4	120
LF2 coil	89.6	67.4	89.8	68.2	120
PCB near BD1	105.9	80.7	104.7	80.7	120
C2 body	87.0	72.4	86.7	73.1	95
T1 coil	96.8	89.8	96.1	89.6	100
T1 core	93.9	87.1	92.5	87.1	100
PCB near T1	84.3	77.6	83.3	77.2	120
CY1 body	81.6	73.7	82.2	74.8	115
IC1 body	82.4	73.9	81.7	74.2	90
PCB near Q1	103.4	89.0	102.4	89.1	120
PCB near D3	101.3	96.4	100.8	96.1	120
C6 body	88.7	81.4	87.5	81.1	95
C7 body	81.9	75.4	80.8	74.7	95
Enclosure inside near T1	73.2	65.2	74.4	67.0	--
Enclosure outside near T1	62.5	56.6	64.5	58.7	85
Output wire	59.2	54.8	59.4	55.1	70
Q1 body	101.9	88.9	101.5	89.3	120

Supplementary information:

Note 1) label down - 90V/60Hz

Note 2) label down - 264V/50Hz

Note 3) label Up - 90V/60Hz

Note 4) label Up - 264V/50Hz

Supplementary information:

- The temperatures were measured under the maximum rated output defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above.
- With a maximum ambient temperature of +50°C for 2ACL030B, +40°C for KPL-065U-VI as declared by the manufacturer.
- Winding components (providing safety isolation):
- Class (B) T_{max} = 120°C - 10°C = 110°C

Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class

Supplementary information:

4.5	TABLE: Thermal requirements (31581397.012)					P
	Supply voltage (V).....:	See below	See below	See below	See below	—
	Ambient T _{min} (°C).....:	--	--			—
	Ambient T _{max} (°C).....:	--	--			—
Maximum temperature T of part/at.....:		T (°C)			Allowed T _{max} (°C)	

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Clause	Requirement + Test			Result - Remark		Verdict
Model: GTR0382	90V Note1	264V Note2	90V Note3	264V Note4		
Ambient	29.0	31.0	30.6	30.7	--	
Inlet body	35.2	37.3	39.5	36.5	59	
Enclosure inside near T1	75.5	75.4	79.3	77.8	94	
Enclosure outside near T1	66.6	66.3	71.3	69.7	84	
TVS1 body	58.8	51.3	62.7	52.5	74	
CX1 body	74.1	62.5	74.8	63.1	89	
LF2 coil	69.2	56.5	74.4	59.2	119	
LF1 coil	85.6	67.3	85.8	67.8	119	
PWB near BD1	89.2	73.1	90.9	74.1	119	
PWB near Q1	85.0	84.1	86.4	84.5	119	
C2 body	85.1	76.1	86.2	76.9	94	
T1 coil	96.3	94.5	97.4	94.6	99	
T1 core	92.8	91.8	93.6	91.8	99	
CY1 body	86.1	86.8	90.5	88.9	114	
IC1 body	73.6	71.7	74.7	71.6	89	
PWB near Q2	88.1	84.4	90.7	85.8	119	
L1 body	72.9	73.6	77.8	76.4	119	
L2 body	109.7	110.3	108.6	108.4	119	
Input wire	65.7	67.1	69.9	68.7	94	
Output wire	48.3	44.7	51.0	44.4	69	
Supplementary information:						
Note 1) label down - 90V/60Hz						
Note 2) label down - 264V/50Hz						
Note 3) label Up - 90V/60Hz						
Note 4) label Up - 264V/50Hz						
Supplementary information:						
● The temperatures were measured under the maximum rated output defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above. ● With a maximum ambient temperature of +45°C as declared by the manufacturer. ● Winding components (providing safety isolation): - Class (B) Tmax = 120°C - 10°C= 110°C						
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)
Supplementary information:						

IEC 60950-1				
Clause	Requirement + Test	Result - Remark		Verdict

4.5	TABLE: Thermal requirements (31581397.010)				P
	Supply voltage (V)	See below	See below	See below	See below
	Ambient T _{min} (°C).....	--	--		--
	Ambient T _{max} (°C).....	--	--		--
Maximum temperature T of part/at.....:		T (°C)			Allowed T _{max} (°C)
Model: 2ABF065F (HS2:Length=20mm)		90V Note1	264V Note2	90V Note3	264V Note4
Ambient		25.2	23.9	24.9	24.1
Inlet body		39.8	37.5	40.3	35.0
Enclosure inside near T1		67.9	57.2	68.0	58.6
Enclosure outside near T1		55.1	48.5	62.3	51.9
ZNR1 body		64.7	57.7	64.9	56.4
CX1 body		82.7	63.3	82.8	62.1
TH1 body		86.0	62.7	86.4	61.7
LF2 coil		91.2	65.9	91.2	64.6
LF1 coil		83.4	62.7	83.5	61.4
PWB near BD1		93.4	69.1	93.0	67.4
PWB near Q2		89.2	73.7	89.1	72.2
C1 body		84.0	66.4	84.5	65.5
T1 coil		88.3	73.4	89.0	72.5
T1 core		82.1	69.1	82.8	68.2
CY1 body		76.5	65.2	77.1	64.4
U4 body		79.5	65.9	79.5	64.6
PWB near Q1		87.9	70.3	87.3	68.8
Q2 body		89.2	75.3	89.2	73.8
Input wire		67.0	54.2	67.4	53.0
Output wire		60.3	52.1	60.4	50.8
Supplementary information:					
Note 1) label down - 90V/60Hz					
Note 2) label down - 264V/50Hz					
Note 3) label Up - 90V/60Hz					
Note 4) label Up - 264V/50Hz					
Model: 2ABF060R (HS2:Length=20mm)		90V Note1	264V Note2	90V Note3	264V Note4
Ambient		25.6	26.0	25.4	25.7
Inlet body		37.9	34.8	37.8	35.3
Enclosure inside near T1		63.4	58.9	63.5	58.9
Enclosure outside near T1		54.1	50.8	54.1	50.8
ZNR1 body		69.0	55.8	69.0	55.7
CX1 body		76.7	61.1	76.4	60.9

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Clause	Requirement + Test		Result - Remark		Verdict
TH1 body	79.4	60.6	79.3	60.6	--
LF2 coil	81.1	62.1	80.6	61.8	115
LF1 coil	78.8	61.3	78.6	61.1	115
PWB near BD1	78.1	62.6	77.6	62.1	115
PWB near Q2	76.0	66.2	75.7	65.9	115
C1 body	73.4	62.6	73.2	62.5	90
T1 coil	82.0	76.7	81.7	76.5	95
T1 core	75.6	71.7	75.4	71.5	95
CY1 body	67.3	63.0	66.4	62.4	110
U4 body	74.3	71.5	74.2	71.8	85
PWB near Q1	83.2	91.4	83.0	91.4	115
Q2 body	74.8	66.2	74.4	65.8	--
Input wire	62.4	52.3	62.2	52.1	90
Output wire	52.6	52.5	51.8	51.9	65
Supplementary information:					
Note 1) label down - 90V/60Hz					
Note 2) label down - 264V/50Hz					
Note 3) label Up - 90V/60Hz					
Note 4) label Up - 264V/50Hz					
Model: 2ACL065U (HS2:Length=70mm)	90V Note1	264V Note2	90V Note3	264V Note4	
Ambient	24.7	25.5	24.7	25.2	--
Inlet body	39.6	42.5	45.6	42.1	54
Enclosure inside near T1	66.0	63.3	67.5	61.9	69
Enclosure outside near T1	59.5	59.8	63.9	59.6	69
TVS1 body	66.4	66.2	67.0	65.8	69
CX1 body	81.4	70.8	82.1	70.4	84
TH1 body	90.2	70.7	91.2	70.3	--
LF1 coil	98.9	76.6	99.5	76.2	114
LF2 coil	87.9	71.6	88.5	71.2	114
PWB near BD1	96.9	77.9	96.9	77.5	114
PWB near Q1	92.1	82.5	92.1	82.0	114
C2 body	84.7	76.7	85.6	76.3	89
T1 coil	91.0	88.5	91.9	88.1	94
T1 core	87.2	83.6	88.4	83.2	94
CY1 body	78.6	74.8	79.3	74.3	109
IC1 body	82.0	78.9	82.9	78.4	84
PWB near Q2	86.4	88.8	86.8	88.4	114
Q1 body	98.0	88.4	98.5	88.0	--
Input wire	64.2	56.0	64.6	55.6	89
Output wire	60.3	60.0	61.5	59.5	64

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Clause	Requirement + Test	Result - Remark		Verdict

Supplementary information:

Note 1) label down - 90V/60Hz

Note 2) label down - 264V/50Hz

Note 3) label Up - 90V/60Hz

Note 4) label Up - 264V/50Hz

Model: 2ACL065R (HS2:Length=70mm)	90V Note1	264V Note2	90V Note3	264V Note4	
Ambient	26.6	24.7	25.7	25.0	--
Inlet body	42.7	37.5	43.3	38.6	56
Enclosure inside near T1	69.4	62.8	68.9	63.2	71
Enclosure outside near T1	59.5	54.4	58.9	54.3	71
TVS1 body	69.5	61.8	68.6	61.8	71
CX1 body	82.2	67.0	81.3	67.1	86
TH1 body	86.1	65.0	85.5	65.3	--
LF1 coil	93.6	68.4	92.6	68.4	116
LF2 coil	86.8	65.8	86.0	65.9	116
PWB near BD1	97.1	72.8	95.9	72.7	116
PWB near Q1	92.8	77.6	91.6	77.5	116
C2 body	85.2	69.8	84.5	70.1	91
T1 coil	90.5	82.0	89.8	82.2	96
T1 core	85.3	77.9	84.6	78.2	96
CY1 body	76.4	68.8	75.4	68.8	111
IC1 body	79.8	73.8	79.2	74.5	86
PWB near Q2	90.4	97.3	89.7	97.6	116
Q1 body	93.2	78.8	92.0	78.6	--
Input wire	65.1	52.9	64.3	52.9	91
Output wire	58.7	55.8	57.6	55.8	66

Supplementary information:

Note 1) label down - 90V/60Hz

Note 2) label down - 264V/50Hz

Note 3) label Up - 90V/60Hz

Note 4) label Up - 264V/50Hz

Model: 2ACL060M (HS2:Length=70mm)	90V Note1	264V Note2	90V Note3	264V Note4	
Ambient	24.1	24.9	23.8	24.2	--
Inlet body	37.7	35.2	38.6	35.5	54
Enclosure inside near T1	65.5	60.9	65.7	60.5	69
Enclosure outside near T1	54.5	51.5	54.7	51.0	69
TVS1 body	67.7	57.6	67.5	57.3	69
CX1 body	77.8	62.8	77.8	62.4	84
TH1 body	84.7	63.1	84.8	62.9	--
LF1 coil	81.9	63.7	81.8	63.4	114
LF2 coil	79.6	62.9	79.6	62.7	114

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Clause	Requirement + Test			Result - Remark	
PWB near BD1	79.0	64.4	79.0	64.0	114
PWB near Q1	78.0	69.1	78.0	68.9	114
C2 body	78.5	66.8	78.4	66.4	89
T1 coil	84.0	77.5	84.0	77.2	94
T1 core	79.9	75.5	79.9	75.0	94
CY1 body	67.1	63.0	67.0	62.3	109
IC1 body	75.5	70.7	75.9	70.8	84
PWB near Q2	84.1	82.8	84.3	82.6	114
Q1 body	76.7	69.4	76.7	68.9	--
Input wire	62.8	53.5	62.2	52.8	89
Output wire	52.6	51.2	52.9	50.5	64
Supplementary information: Note 1) label down - 90V/60Hz Note 2) label down - 264V/50Hz Note 3) label Up - 90V/60Hz Note 4) label Up - 264V/50Hz					
Model: 2ACL060K (HS2:Length=70mm)	90V Note1	264V Note2	90V Note3	264V Note4	
Ambient	23.0	23.7	22.9	23.1	--
Inlet body	39.9	36.0	40.4	37.9	53
Enclosure inside near T1	64.6	61.3	64.9	62.6	68
Enclosure outside near T1	51.5	51.2	57.2	53.9	68
TVS1 body	64.7	59.6	64.5	59.0	68
CX1 body	76.1	64.7	75.8	64.1	83
TH1 body	79.7	63.3	79.6	62.9	--
LF1 coil	82.7	66.2	82.4	65.7	113
LF2 coil	77.8	64.3	77.4	63.8	113
PWB near BD1	80.0	66.9	79.4	66.1	113
PWB near Q1	80.0	73.9	79.7	73.3	113
C2 body	78.7	68.9	78.7	68.7	88
T1 coil	86.2	80.8	86.6	80.6	93
T1 core	80.9	77.2	81.2	77.0	93
CY1 body	68.9	65.4	69.0	65.1	108
IC1 body	76.8	73.1	77.4	73.1	83
PWB near Q2	89.6	88.4	90.3	88.1	113
Q1 body	78.6	73.9	78.7	73.5	--
Input wire	60.5	53.5	60.1	52.6	88
Output wire	54.3	53.6	56.0	53.5	63
Supplementary information: Note 1) label down - 90V/60Hz Note 2) label down - 264V/50Hz Note 3) label Up - 90V/60Hz Note 4) label Up - 264V/50Hz					

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Clause	Requirement + Test		Result - Remark		Verdict
Model: 2ACL065U (HS2:Length=20mm)	90V Note1	264V Note2	90V Note3	264V Note4	
Ambient	24.7	25.5	24.7	25.2	--
Inlet body	39.6	42.5	45.6	42.1	54
Enclosure inside near T1	66.0	63.3	67.5	61.9	69
Enclosure outside near T1	59.5	59.8	63.9	59.6	69
TVS1 body	66.4	66.2	67.0	65.8	69
CX1 body	81.4	70.8	82.1	70.4	84
TH1 body	90.2	70.7	91.2	70.3	--
LF1 coil	98.9	76.6	99.5	76.2	114
LF2 coil	87.9	71.6	88.5	71.2	114
PWB near BD1	96.9	77.9	96.9	77.5	114
PWB near Q1	92.1	82.5	92.1	82.0	114
C2 body	84.7	76.7	85.6	76.3	89
T1 coil	91.0	88.5	91.9	88.1	94
T1 core	87.2	83.6	88.4	83.2	94
CY1 body	78.6	74.8	79.3	74.3	109
IC1 body	82.0	78.9	82.9	78.4	84
PWB near Q2	86.4	88.8	86.8	88.4	114
Q1 body	98.0	88.4	98.5	88.0	--
Input wire	64.2	56.0	64.6	55.6	89
Output wire	60.3	60.0	61.5	59.5	64
Supplementary information:					
Note 1) label down - 90V/60Hz					
Note 2) label down - 264V/50Hz					
Note 3) label Up - 90V/60Hz					
Note 4) label Up - 264V/50Hz					
Model: 2ACL065R (HS2:Length=20mm)	90V Note1	264V Note2	90V Note3	264V Note4	
Ambient	26.6	24.7	25.7	25.0	--
Inlet body	42.7	37.5	43.3	38.6	56
Enclosure inside near T1	69.4	62.8	68.9	63.2	71
Enclosure outside near T1	59.5	54.4	58.9	54.3	71
TVS1 body	69.5	61.8	68.6	61.8	71
CX1 body	82.2	67.0	81.3	67.1	86
TH1 body	86.1	65.0	85.5	65.3	--
LF1 coil	93.6	68.4	92.6	68.4	116
LF2 coil	86.8	65.8	86.0	65.9	116
PWB near BD1	97.1	72.8	95.9	72.7	116
PWB near Q1	92.8	77.6	91.6	77.5	116
C2 body	85.2	69.8	84.5	70.1	91
T1 coil	90.5	82.0	89.8	82.2	96
T1 core	85.3	77.9	84.6	78.2	96

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Clause	Requirement + Test			Result - Remark	
CY1 body	76.4	68.8	75.4	68.8	111
IC1 body	79.8	73.8	79.2	74.5	86
PWB near Q2	90.4	97.3	89.7	97.6	116
Q1 body	93.2	78.8	92.0	78.6	--
Input wire	65.1	52.9	64.3	52.9	91
Output wire	58.7	55.8	57.6	55.8	66
Supplementary information: Note 1) label down - 90V/60Hz Note 2) label down - 264V/50Hz Note 3) label Up - 90V/60Hz Note 4) label Up - 264V/50Hz					
Model: 2ACL060M (HS2:Length=20mm)	90V Note1	264V Note2	90V Note3	264V Note4	
Ambient	24.1	24.9	23.8	24.2	--
Inlet body	37.7	35.2	38.6	35.5	54
Enclosure inside near T1	65.5	60.9	65.7	60.5	69
Enclosure outside near T1	54.5	51.5	54.7	51.0	69
TVS1 body	67.7	57.6	67.5	57.3	69
CX1 body	77.8	62.8	77.8	62.4	84
TH1 body	84.7	63.1	84.8	62.9	--
LF1 coil	81.9	63.7	81.8	63.4	114
LF2 coil	79.6	62.9	79.6	62.7	114
PWB near BD1	79.0	64.4	79.0	64.0	114
PWB near Q1	78.0	69.1	78.0	68.9	114
C2 body	78.5	66.8	78.4	66.4	89
T1 coil	84.0	77.5	84.0	77.2	94
T1 core	79.9	75.5	79.9	75.0	94
CY1 body	67.1	63.0	67.0	62.3	109
IC1 body	75.5	70.7	75.9	70.8	84
PWB near Q2	84.1	82.8	84.3	82.6	114
Q1 body	76.7	69.4	76.7	68.9	--
Input wire	62.8	53.5	62.2	52.8	89
Output wire	52.6	51.2	52.9	50.5	64
Supplementary information: Note 1) label down - 90V/60Hz Note 2) label down - 264V/50Hz Note 3) label Up - 90V/60Hz Note 4) label Up - 264V/50Hz					
Model: 2ACL060K (HS2:Length=20mm)	90V Note1	264V Note2	90V Note3	264V Note4	
Ambient	23.0	23.7	22.9	23.1	--
Inlet body	39.9	36.0	40.4	37.9	53
Enclosure inside near T1	64.6	61.3	64.9	62.6	68

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Clause	Requirement + Test			Result - Remark	Verdict

Enclosure outside near T1	51.5	51.2	57.2	53.9	68
TVS1 body	64.7	59.6	64.5	59.0	68
CX1 body	76.1	64.7	75.8	64.1	83
TH1 body	79.7	63.3	79.6	62.9	--
LF1 coil	82.7	66.2	82.4	65.7	113
LF2 coil	77.8	64.3	77.4	63.8	113
PWB near BD1	80.0	66.9	79.4	66.1	113
PWB near Q1	80.0	73.9	79.7	73.3	113
C2 body	78.7	68.9	78.7	68.7	88
T1 coil	86.2	80.8	86.6	80.6	93
T1 core	80.9	77.2	81.2	77.0	93
CY1 body	68.9	65.4	69.0	65.1	108
IC1 body	76.8	73.1	77.4	73.1	83
PWB near Q2	89.6	88.4	90.3	88.1	113
Q1 body	78.6	73.9	78.7	73.5	--
Input wire	60.5	53.5	60.1	52.6	88
Output wire	54.3	53.6	56.0	53.5	63

Supplementary information:

Note 1) label down - 90V/60Hz

Note 2) label down - 264V/50Hz

Note 3) label Up - 90V/60Hz

Note 4) label Up - 264V/50Hz

Supplementary information:

- The temperatures were measured under the maximum rated output defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above.
- With a maximum ambient temperature of +45°C as declared by the manufacturer.
- Winding components (providing safety isolation):
- Class (B) T_{max} = 120°C - 10°C = 110°C

Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class

Supplementary information:

4.5	TABLE: Thermal requirements (11040445.001)			P
	Supply voltage (V).....:	See below	See below	—
	Ambient T _{min} (°C).....:	---		—
	Ambient T _{max} (°C).....:	See below		—
Maximum temperature T of part/at.....:		T (°C)		Allowed T _{max} (°C)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Maximum temperature T of part/at:	MODEL: 2ABF065F - Label down 90V/60Hz (40°C)	MODEL: 2ABF065F -Label down 264V/50Hz (40°C)	allowed Tmax (°C)
CH21 Ambient	40.0	40.0	40
CH22 Inlet body	56.9	60.5	70
CH23 Enclosure inside near T1	78.8	80.8	85
CH24 Enclosure outer near T1	66.5	69.8	95
CH25 ZNR1	81.2	81.5	85
CH26 CX1	94.9	94.0	100
CH27 LF1	90.7	90.6	105
CH28 LF2	100.5	97.8	105
CH29 PWB near BD1(HS1)	89.7	90.2	105
CH30 PWB near Q2(HS1)	104.6	103.7	105
CH31 C1	98.7	98.3	105
CH32 T1 coil	102.7	102.0	110
CH33 T1 core	94.3	94.3	110
CH34 CY1	86.8	86.5	125
CH35 U4	91.9	91.7	100
CH36 PWB near Q1(HS2)	92.9	92.9	105
CH37 C5	93.1	92.8	105
CH38 C6	84.2	83.6	105
CH39 output wire	68.1	67.1	80
Maximum temperature T of part/at:	MODEL: 2ABF065F Label up 90V/60Hz (40°C)	MODEL: 2ABF065F Label up 264V/50Hz (40°C)	allowed Tmax (°C)
CH21 Ambient	40.0	40.0	40
CH22 Inlet body	53.7	54.0	70
CH23 Enclosure inside near T1	68.4	69.3	85
CH24 Enclosure outer near T1	58.5	61.2	95
CH25 ZNR1	67.9	67.2	85
CH26 CX1	75.8	74.6	100
CH27 LF1	72.9	71.8	105
CH28 LF2	75.8	75.1	105
CH29 PWB near BD1(HS1)	74.7	73.2	105
CH30 PWB near Q2(HS1)	83.4	81.9	105
CH31 C1	78.3	77.5	105
CH32 T1 coil	86.2	85.2	110
CH33 T1 core	81.3	80.7	110
CH34 CY1	75.3	74.3	125

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Clause	Requirement + Test	Result - Remark	Verdict
CH35 U4	77.8	77.5	100
CH36 PWB near Q1(HS2)	78.4	78.0	105
CH37 C5	77.9	77.3	105
CH38 C6	72.0	71.0	105
CH39 output wire	59.5	58.9	80
Maximum temperature T of part/at:	MODEL: 2ABF060R - Label down 90V/60Hz (40°C)	MODEL: 2ABF060R - Label down 264V/50Hz (40°C)	allowed Tmax (°C)
CH01 Ambient	40.0	40.0	40
CH02 Inlet body	54.2	56.1	70
CH03 Enclosure inside near T1	74.2	75.5	85
CH04 Enclosure outer near T1	67.1	68.4	95
CH05 ZNR1	75.5	76.5	85
CH06 CX1	89.0	89.7	100
CH07 LF1	83.4	84.0	105
CH08 LF2	86.4	87.2	105
CH09 PWB near BD1(HS1)	84.9	86.1	105
CH10 PWB near Q2(HS1)	89.8	90.2	105
CH11 C1	90.8	91.5	105
CH12 T1 coil	93.5	93.9	110
CH13 T1 core	84.6	85.2	110
CH14 CY1	81.7	81.7	125
CH15 U4	86.4	87.1	100
CH16 PWB near Q1(HS2)	89.8	90.4	105
CH17 C5	82.0	82.5	105
CH18 C6	77.2	77.6	105
CH19 output wire	70.8	70.8	80
Maximum temperature T of part/at:	MODEL: 2ABF060R - Label UP 90V/60Hz (40°C)	MODEL: 2ABF060R - Label UP 264V/50Hz (40°C)	allowed Tmax (°C)
CH01 Ambient	40.0	40.0	40
CH02 Inlet body	50.0	50.6	70
CH03 Enclosure inside near T1	68.7	69.7	85
CH04 Enclosure outer near T1	61.5	63.1	95
CH05 ZNR1	66.0	66.2	85
CH06 CX1	74.7	74.6	100
CH07 LF1	71.4	71.2	105
CH08 LF2	71.4	71.6	105
CH09 PWB near BD1(HS1)	71.4	71.5	105

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Clause	Requirement + Test				Result - Remark		Verdict
CH10 PWB near Q2(HS1)	79.2				79.1	105	
CH11 C1	79.6				79.9	105	
CH12 T1 coil	89.0				89.2	110	
CH13 T1 core	80.7				81.0	110	
CH14 CY1	76.0				75.6	125	
CH15 U4	83.0				83.3	100	
CH16 PWB near Q1(HS2)	91.0				91.3	105	
CH17 C5	80.4				80.7	105	
CH18 C6	73.8				74.1	105	
CH19 output wire	68.7				68.7	80	
Supplementary information: -The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above. -With a maximum ambient temperature of +40° -All values for T (°C) are re-calculated from actual ambient. -Winding components (providing safety isolation): - Class (B) Tmax = 120°C - 10°C = 110°C							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
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Supplementary information:							

4.5	TABLE: Thermal requirements (PCB with fuses: F1, F2) (31581397.001)					P
	Supply voltage (V).....:	90V	264V	90V	264V	—
	Ambient T _{min} (°C).....:	--	--			—
	Ambient T _{max} (°C).....:	--	--			—
Maximum temperature T of part/at.....:		T (°C)				Allowed T _{max} (°C)
Model: KPL-060I-VI	position:	Label down		Label up		
AC Inlet (70°C)		63.2	57.4	63.7	57.4	70
CX1 body (100°C)		68.5	61.8	68.4	61.9	100
LF1 coil (130°C)		99.2	75.3	98.8	75.2	130
LF2 coil (130°C)		82.6	68.1	83.0	68.6	130
PCB near BD1 (130°C)		98.2	82.0	97.8	81.7	130
C2 body (105°C)		86.7	76.7	86.5	76.9	105
T1 coil (Class B)		88.1	85.1	87.0	84.3	110
T1 core (Class B)		77.2	76.1	75.9	75.4	110
PCB under T1 (130°C)		82.1	81.5	81.1	81.3	130
CY1 body (125°C)		78.8	73.3	75.9	71.0	125
IC1 body (110°C)		75.9	72.4	76.3	74.0	110
PCB near Q1 (130°C)		94.4	83.3	94.3	83.1	130
PCB near D3 (130°C)		92.6	93.7	90.9	92.7	130

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Clause	Requirement + Test		Result - Remark		Verdict
C6 body (105°C)	86.3	86.9	85.1	86.6	105
C7 body (105°C)	81.7	81.9	80.9	81.6	105
Internal plastic enclosure above T1	72.7	70.0	71.5	69.2	--.
External plastic enclosure above T1 (95°C)	63.6	62.6	62.9	61.7	95
Output cord (80°C)	47.0	47.6	47.2	47.4	80
Ambient	45.0	45.0	45.0	45.0	--
Model: KPL-050F-VI position:	Label down		Label up		
AC Inlet (70°C)	62.2	55.8	62.3	56.1	70
CX1 body (100°C)	64.0	57.6	63.1	56.9	100
LF1 coil (130°C)	97.3	72.6	93.9	72.9	130
LF2 coil (130°C)	80.8	65.9	80.3	66.2	130
PCB near BD1 (130°C)	97.3	80.1	98.0	80.2	130
C2 body (105°C)	93.8	78.9	94.0	79.0	105
T1 coil (Class B)	94.0	91.2	94.7	91.5	110
T1 core (Class B)	88.2	89.9	90.5	90.2	110
PCB under T1 (130°C)	87.4	85.8	87.8	86.1	130
CY1 body (125°C)	82.9	78.5	84.1	79.6	125
IC1 body (110C)	77.7	74.3	79.1	76.0	110
PCB near Q1 (130°C)	93.5	83.9	94.1	84.3	130
PCB near D3 (130C)	92.5	91.1	93.0	91.5	130
C6 body (105°C)	89.4	87.9	89.7	88.2	105
C7 body (105°C)	84.3	82.6	84.8	82.9	105
Internal plastic enclosure above T1	70.7	70.0	70.8	70.2	--.
External plastic enclosure above T1 (95°C)	64.0	63.4	65.0	64.4	95
Output cord (80°C)	49.9	49.2	49.8	49.6	80
Ambient	45.0	45.0	45.0	45.0	--
Model: KPL-060F-VI position:	Label down		Label up		
AC Inlet (70°C)	68.2	57.5	68.4	58.2	70
CX1 body (100°C)	76.5	63.3	74.8	62.9	100
LF1 coil (130°C)	112.2	76.6	111.7	77.4	130
LF2 coil (130°C)	94.1	69.7	94.0	70.3	130
PCB near BD1 (130°C)	105.4	79.1	105.6	79.9	130
C2 body (105°C)	94.7	76.4	93.8	76.7	105
T1 coil (Class B)	98.8	87.8	98.2	88.5	110
T1 core (Class B)	87.4	78.3	86.6	79.0	110
PCB under T1 (130°C)	91.9	83.3	91.3	83.9	130
CY1 body (125°C)	88.0	75.9	89.0	77.4	125
IC1 body (110C)	84.5	76.0	83.0	75.7	110
PCB near Q1 (130°C)	100.3	81.0	101.0	82.0	130
PCB near D3 (130C)	100.3	94.0	99.7	93.9	130
C6 body (105°C)	97.2	90.8	97.4	91.4	105
C7 body (105°C)	92.9	85.9	93.1	86.7	105

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Clause	Requirement + Test		Result - Remark		Verdict
Internal plastic enclosure above T1	80.8	70.6	80.8	71.8	--.
External plastic enclosure above T1 (95°C)	72.4	64.6	73.1	66.3	95
Output cord (80°C)	52.9	50.9	54.0	52.6	80
Ambient	45.0	45.0	45.0	45.0	--
Model: KPL-066F-VI	position:	Label down	Label up		
AC Inlet (70°C)	65.6	55.6	66.2	56.4	70
CX1 body (100°C)	71.8	60.1	72.4	60.9	100
LF1 coil (130°C)	105.1	75.7	106.7	76.8	130
LF2 coil (130°C)	91.0	68.2	93.0	69.3	130
PCB near BD1 (130°C)	97.6	76.5	98.6	77.2	130
C2 body (105°C)	93.0	76.3	94.3	77.3	105
T1 coil (Class B)	93.2	83.6	95.6	85.6	110
T1 core (Class B)	85.1	76.7	87.7	78.6	110
PCB under T1 (130°C)	87.6	80.3	89.4	81.8	130
CY1 body (125°C)	82.8	74.3	85.3	76.2	125
IC1 body (110°C)	79.7	72.2	82.6	74.8	110
PCB near Q1 (130°C)	92.4	80.0	94.5	82.4	130
PCB near D3 (130°C)	100.3	94.1	103.4	96.4	130
C6 body (105°C)	98.2	91.6	101.1	93.8	105
C7 body (105°C)	92.1	85.5	95.0	87.8	105
Internal plastic enclosure above T1	82.4	71.9	85.0	73.9	--.
External plastic enclosure above T1 (95°C)	68.3	62.1	72.5	65.7	95
Output cord (80°C)	46.6	45.8	48.1	47.0	80
Ambient	40.0	40.0	40.0	40.0	--
Model: KPL-065J-VI	position:	Label down	Label up		
AC Inlet (70°C)	68.5	58.6	68.7	59.1	70
CX1 body (100°C)	69.5	59.3	71.2	60.6	100
LF1 coil (130°C)	108.5	76.8	106.4	77.7	130
LF2 coil (130°C)	91.2	68.4	92.3	69.8	130
PCB near BD1 (130°C)	106.1	82.7	103.7	83.2	130
C2 body (105°C)	86.8	73.0	87.8	74.5	105
T1 coil (Class B)	92.3	84.7	92.7	86.1	110
T1 core (Class B)	82.0	76.1	83.1	77.4	110
PCB under T1 (130°C)	85.9	80.7	87.3	82.3	130
CY1 body (125°C)	90.2	81.4	90.6	82.0	125
IC1 body (110°C)	75.6	69.8	80.4	74.6	110
PCB near Q1 (130°C)	103.0	90.6	102.8	90.9	130
PCB near D3 (130°C)	93.1	90.0	95.8	93.0	130
C6 body (105°C)	90.6	87.2	93.0	89.5	105
C7 body (105°C)	85.6	81.1	87.0	82.8	105
Internal plastic enclosure above T1	76.1	69.6	77.7	71.4	--.
External plastic enclosure above T1 (95°C)	63.2	59.4	65.5	61.9	95

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Clause	Requirement + Test		Result - Remark		Verdict
Output cord (80°C)	43.8	44.1	47.9	47.2	80
Ambient	40.0	40.0	40.0	40.0	--
Model: KPL-065M-VI	position:	Label down	Label up		
AC Inlet (70°C)	65.2	56.3	65.9	56.3	70
CX1 body (100°C)	70.9	60.5	70.7	60.0	100
LF1 coil (130°C)	101.9	73.0	101.3	72.8	130
LF2 coil (130°C)	90.0	67.5	90.7	67.6	130
PCB near BD1 (130°C)	102.7	77.1	103.0	76.9	130
C2 body (105°C)	90.6	74.1	90.6	73.8	105
T1 coil (Class B)	85.5	81.1	85.7	80.9	110
T1 core (Class B)	76.2	73.0	76.2	72.8	110
PCB under T1 (130°C)	80.2	77.0	80.4	77.0	130
CY1 body (125°C)	79.6	70.6	82.4	72.1	125
IC1 body (110C)	73.6	68.3	73.3	68.2	110
PCB near Q1 (130°C)	96.1	77.8	96.9	77.9	130
PCB near D3 (130C)	84.5	82.9	83.8	82.1	130
C6 body (105°C)	82.5	80.6	82.0	79.9	105
C7 body (105°C)	78.3	75.9	78.0	75.5	105
Internal plastic enclosure above T1	71.6	67.1	71.8	66.9	--.
External plastic enclosure above T1 (95°C)	63.9	60.8	61.3	60.4	95
Output cord (80°C)	47.9	47.3	48.6	48.0	80
Ambient	45.0	45.0	45.0	45.0	--
Model: KPL-065S-VI	position:	Label down	Label up		
AC Inlet (70°C)	67.8	58.7	68.7	58.8	70
CX1 body (100°C)	70.8	60.8	71.1	61.0	100
LF1 coil (130°C)	102.6	76.3	104.4	76.3	130
LF2 coil (130°C)	89.7	68.7	89.6	68.8	130
PCB near BD1 (130°C)	102.4	80.5	104.2	80.6	130
C2 body (105°C)	87.8	73.9	88.9	73.8	105
T1 coil (Class B)	92.5	84.9	93.4	84.6	110
T1 core (Class B)	82.4	76.6	83.6	76.4	110
PCB under T1 (130°C)	83.8	77.5	83.8	76.8	130
CY1 body (125°C)	85.2	75.2	85.3	74.6	125
IC1 body (110C)	76.6	67.1	75.1	66.5	110
PCB near Q1 (130°C)	97.9	82.1	99.7	81.9	130
PCB near D3 (130C)	83.8	74.0	82.6	72.6	130
C6 body (105°C)	79.3	71.1	78.5	69.6	105
C7 body (105°C)	77.3	69.4	76.4	68.2	105
Internal plastic enclosure above T1	77.2	70.2	78.2	70.0	--
External plastic enclosure above T1 (95°C)	68.9	64.2	69.8	63.6	95
Output cord (80°C)	49.1	47.7	48.0	47.0	80
Ambient	45.0	45.0	45.0	45.0	--

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:							
- The temperatures were measured under the maximum rated output defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above. - With a maximum ambient temperature of +45°C as declared by the manufacturer. - Winding components (providing safety isolation): - Class (B) T_{max} = 120°C - 10°C = 110°C							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:							
4.5	TABLE: Thermal requirements (PCB with fuse: FUSE1) (15077081.001)					P	
	Supply voltage (V)	90V	264V	90V	264V	—	
	Ambient T _{min} (°C)	--	--			—	
	Ambient T _{max} (°C)	--	--			—	
Maximum temperature T of part/at.....:		T (°C)				Allowed T _{max} (°C)	
Model: KPL-050F	test position:	Label down		Label up			
AC Inlet (70°C)		67.2	62.1	67.5	64.0	70	
CX1 body (100°C)		79.7	75.1	84.7	79.8	100	
LF1 coil (130°C)		96.4	78.2	98.7	80.9	130	
LF2 coil (130°C)		94.2	79.4	96.6	81.8	130	
PCB near BD1 (130°C)		106.0	85.4	106.0	85.8	130	
C2 body (105°C)		101.2	88.4	101.7	92.0	105	
T1 coil (Class B)		104.1	101.5	107.8	104.7	110	
T1 core (Class B)		100.3	98.3	104.6	100.2	110	
PCB under T1 (130°C)		97.5	93.1	96.5	92.6	130	
CY1 body (125°C)		91.6	86.1	93.9	88.8	125	
IC1 body (110°C)		91.6	88.7	95.5	92.7	110	
PCB near Q1 (130°C)		111.3	95.6	110.8	95.9	130	
PCB near D3 (130°C)		94.6	92.9	100.1	98.4	130	
C6 body (105°C)		92.8	91.5	97.3	96.1	105	
C7 body (105°C)		90.6	89.1	93.7	92.4	105	
Internal plastic enclosure above T1		74.3	74.2	90.0	89.7	--.	
External plastic enclosure above T1 (95°C)		66.9	66.7	85.1	84.7	95	
Output cord (80°C)		52.6	51.8	52.7	52.4	80	
Ambient		40.1	40.0	40.1	40.1	--	
Model: KPL-050M	test position:	Label down		Label up			
AC Inlet (70°C)		52.7	50.1	51.6	49.5	70	
CX1 body (100°C)		61.9	59.2	62.2	59.6	100	

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Clause	Requirement + Test		Result - Remark		Verdict
LF1 coil (130°C)	79.2	67.7	78.0	67.2	130
LF2 coil (130°C)	70.4	63.5	70.0	63.4	130
PCB near BD1 (130°C)	81.3	69.0	81.7	69.0	130
C2 body (105°C)	80.3	73.1	79.4	72.7	105
T1 coil (Class B)	83.3	82.0	82.9	81.8	110
T1 core (Class B)	78.9	77.8	79.3	78.4	110
PCB under T1 (130°C)	81.3	80.7	78.5	78.0	130
CY1 body (125°C)	81.3	77.2	79.8	76.1	125
IC1 body (110°C)	75.9	73.2	75.9	73.5	110
PCB near Q1 (130°C)	90.5	79.7	88.3	78.2	130
PCB near D3 (130°C)	67.1	65.5	64.9	63.2	130
C6 body (105°C)	67.6	68.9	70.4	71.8	105
C7 body (105°C)	69.3	70.6	70.8	72.3	105
Internal plastic enclosure above T1	69.7	70.4	73.8	74.7	--.
External plastic enclosure above T1 (95°C)	59.0	59.7	66.1	66.7	95
Output cord (80°C)	45.6	45.6	42.6	42.5	80
Ambient	40.2	40.0	40.1	40.1	--
Model: KPL-060I	test position:	Label down		Label up	
AC Inlet (70°C)	54.6	51.5	55.3	52.1	70
CX1 body (100°C)	74.4	68.6	75.8	69.7	100
LF1 coil (130°C)	92.1	75.0	91.8	74.8	130
LF2 coil (130°C)	80.9	69.9	80.9	69.9	130
PCB near BD1 (130°C)	98.5	79.3	97.2	78.2	130
C2 body (105°C)	85.8	76.5	87.3	77.8	105
T1 coil (Class B)	88.0	86.3	90.3	88.3	110
T1 core (Class B)	83.8	82.5	87.0	85.4	110
PCB under T1 (130°C)	83.2	80.4	79.8	77.3	130
CY1 body (125°C)	79.0	76.0	79.2	76.0	125
IC1 body (110°C)	95.2	91.9	95.4	92.5	110
PCB near Q1 (130°C)	114.8	101.4	113.6	100.9	130
PCB near D3 (130°C)	104.4	102.2	105.9	103.8	130
C6 body (105°C)	97.3	95.6	99.2	97.6	105
C7 body (105°C)	92.3	90.5	93.5	91.8	105
Internal plastic enclosure above T1	72.1	69.6	76.7	74.2	--.
External plastic enclosure above T1 (95°C)	70.0	67.9	83.0	80.2	95
Output cord (80°C)	51.8	51.0	52.7	52.5	80
Ambient	40.1	40.0	40.1	40.1	--
Model: KPL-065F	test position:	Label down		Label up	
AC Inlet (70°C)	57.6	53.3	53.3	49.6	70
CX1 body (100°C)	84.3	73.8	82.9	72.6	100
LF1 coil (130°C)	94.5	75.1	94.5	75.9	130
LF2 coil (130°C)	88.5	72.6	86.5	71.5	130

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
PCB near BD1 (130°C)	93.7	75.0	95.3	77.0	130
C2 body (105°C)	95.8	79.7	95.6	80.1	105
T1 coil (Class B)	100.8	89.2	101.1	88.7	110
T1 core (Class B)	96.8	87.4	96.2	84.9	110
PCB under T1 (130°C)	93.3	83.8	90.5	80.5	130
CY1 body (125°C)	89.3	78.2	89.8	78.5	125
IC1 body (110C)	94.3	84.6	93.2	83.7	110
PCB near Q1 (130°C)	99.7	81.7	101.7	83.7	130
PCB near D3 (130C)	98.1	89.6	98.1	89.2	130
C6 body (105°C)	96.9	89.3	97.4	88.8	105
C7 body (105°C)	91.0	83.8	92.3	83.8	105
Internal plastic enclosure above T1	80.4	70.0	83.9	73.0	--.
External plastic enclosure above T1 (95°C)	69.0	61.4	73.9	65.5	95
Output cord (80°C)	50.1	48.5	53.5	51.3	80
Ambient	40.0	40.0	40.4	40.1	--
Model: KPL-065J	test position:	Label down		Label up	
AC Inlet (70°C)		63.0	58.1	67.1	61.5
CX1 body (100°C)		75.3	71.7	79.3	73.2
LF1 coil (130°C)		96.1	81.1	100.8	83.1
LF2 coil (130°C)		84.3	75.1	89.6	77.1
PCB near BD1 (130°C)		92.2	81.8	98.3	84.6
C2 body (105°C)		81.9	76.8	89.4	80.4
T1 coil (Class B)		93.4	90.0	99.7	92.3
T1 core (Class B)		83.4	81.5	91.3	84.7
PCB under T1 (130°C)		85.4	83.0	89.8	83.7
CY1 body (125°C)		88.7	84.6	93.8	86.3
IC1 body (110C)		84.4	82.6	87.9	82.4
PCB near Q1 (130°C)		106.6	97.9	113.4	101.2
PCB near D3 (130C)		89.1	88.8	92.7	88.7
C6 body (105°C)		83.7	84.4	88.5	85.0
C7 body (105°C)		82.2	82.4	85.7	81.7
Internal plastic enclosure above T1		69.1	68.2	75.9	71.5
External plastic enclosure above T1 (95°C)		65.8	66.5	78.0	73.0
Output cord (80°C)		49.4	50.4	49.2	47.8
Ambient		40.0	40.0	40.4	40.1
Model: KPL-065M	test position:	Label down		Label up	
AC Inlet (70°C)		54.1	50.7	59.2	53.5
CX1 body (100°C)		69.2	64.3	72.7	65.3
LF1 coil (130°C)		83.0	67.5	89.1	69.5
LF2 coil (130°C)		76.6	65.4	81.5	66.6
PCB near BD1 (130°C)		87.8	69.8	93.2	71.6
C2 body (105°C)		77.6	69.5	83.6	71.8

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Clause	Requirement + Test			Result - Remark	Verdict

T1 coil (Class B)	81.9	78.2	87.2	80.3	110
T1 core (Class B)	75.9	73.5	81.8	76.5	110
PCB under T1 (130°C)	81.1	76.9	79.6	73.3	130
CY1 body (125°C)	77.7	72.4	82.0	73.9	125
IC1 body (110°C)	77.8	74.5	78.9	73.9	110
PCB near Q1 (130°C)	90.7	75.9	95.3	77.5	130
PCB near D3 (130°C)	80.1	78.5	82.2	78.9	130
C6 body (105°C)	74.9	73.9	78.4	75.2	105
C7 body (105°C)	72.2	70.6	75.8	72.0	105
Internal plastic enclosure above T1	67.0	63.3	72.3	66.1	--
External plastic enclosure above T1 (95°C)	58.0	56.1	69.7	64.5	95
Output cord (80°C)	45.9	45.9	45.4	45.0	80
Ambient	40.0	40.0	40.0	40.1	--

Supplementary information:

- The temperatures were measured under the maximum rated output defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above.
- With a maximum ambient temperature of +40°C as declared by the manufacturer.
- Winding components (providing safety isolation):
- Class (B) T_{max} = 120°C - 10°C = 110°C

Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class

Supplementary information:

4.5.5	TABLE: Ball pressure test of thermoplastic parts			N/A
	Allowed impression diameter (mm) :		≤ 2 mm	—
Part		Test temperature (°C)	Impression diameter (mm)	
Supplementary information: Phenolic material used for bobbins are accepted without test at temperatures not exceeding 125°C.				

4.6.1, 4.6.2	TABLE: Enclosure opening measurements		P
Location		Size (mm)	Comments
Top		--	No opening
Flank side		--	No opening
Bottom		--	No opening
Supplementary information:			

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Clause	Requirement + Test	Result - Remark	Verdict

4.7	TABLE: Resistance to fire				P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
Enclosure	1)	1)	1)	1)	1)
PCB	1)	1)	1)	1)	1)
Supplementary information:					
1) see appended table 1.5.1					

5.1	TABLE: touch current measurement (31581397.016)				P
Measured between:		Measured (mA)		Limit (mA)	Comments/conditions
L/N to output (+) terminal		0.15	0.15	3.5	Terminal A at output terminal, switch "e" open
L/N to output (-) terminal		0.15	0.15	3.5	Terminal A at output terminal, switch "e" open
L/N to enclosure with metal foil		0.01	0.01	0.25	Terminal A at enclosure with metal foil, switch "e" close
supplementary information:					
Test voltage: 264V, 60Hz					
Model: KPL [PCB with F1, F2]: Secondary GND disconnected from Earth GND.					
Overall capacity: CY1= 2200pF					

5.1	TABLE: touch current measurement (31581397.012) (GTR)				P
Measured between:		Measured (mA)		Limit (mA)	Comments/conditions
L/N to output (+) terminal		0.42	0.42	3.5	Terminal A at output terminal, switch "e" open
L/N to output (-) terminal		0.42	0.42	3.5	Terminal A at output terminal, switch "e" open
L/N to enclosure with metal foil		0.04	0.04	0.25	Terminal A at enclosure with metal foil, switch "e" close
supplementary information:					
Test voltage: 264V, 60Hz					
Overall capacity: CY1= 3300pF, CY2=CY3=3300pF					

5.1	TABLE: touch current measurement (31581397.010) (2ACL)				P
Measured between:		Measured (mA)		Limit (mA)	Comments/conditions
L/N to output (+) terminal		0.20	0.19	3.5	Terminal A at output terminal, switch "e" open

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Clause	Requirement + Test			Result - Remark	Verdict
L/N to output (-) terminal	0.20	0.19	3.5	Terminal A at output terminal, switch “e” open	
L/N to enclosure with metal foil	0.04	0.04	0.25	Terminal A at enclosure with metal foil, switch “e” close	
supplementary information:					
Test voltage: 264V, 60Hz					
Overall capacity: CY1= 3300pF					

5.1	TABLE: touch current measurement (11040445.001) (2ABF)				P
Measured between:		Measured (mA)		Limit (mA)	Comments/conditions
L/N to output (+) terminal		0.30	0.30	3.5	Terminal A at output terminal, switch “e” open
L/N to output (-) terminal		0.30	0.30	3.5	Terminal A at output terminal, switch “e” open
L/N to enclosure with metal foil		0.01	0.01	0.25	Terminal A at enclosure with metal foil, switch “e” close
supplementary information:					
Test voltage: 264V, 60Hz					
Overall capacity: CY1= 3300pF					

5.1	TABLE: touch current measurement (KPL)			P
Measured between:		Measured (mA)	Limit (mA)	Comments/conditions
L to terminal A		0.17	0.25	Output terminals, switch “e” closed
N to terminal A		0.17	0.25	Output terminals, switch “e” closed
L to terminal A		0.01	0.25	To enclosure with foil, switch “e” closed
N to terminal A		0.01	0.25	To enclosure with foil, switch “e” closed
supplementary information:				
Test voltage: 264 Vac, 60 Hz				
See appended table 1.5.1				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests (31581397.016) (KPL)				P
Test voltage applied between:			Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:					
Unit: Primary to PE (basic)			AC	1788	No
Reinforced:					

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Clause	Requirement + Test	Result - Remark	Verdict

Unit: Primary to Secondary (reinforce)	AC	3000	No
T1 primary winding to secondary winding (reinforce)	AC	3000	No
T1 core to secondary winding (reinforce)	AC	3000	No
Supplementary information:			

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests (31581397.012) (GTR)			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:				
Unit: Primary to PE (basic)		AC	1788	No
Reinforced:				
Unit: Primary to Secondary (reinforce)		AC	3000	No
T1 primary winding to secondary winding (reinforce)		AC	3000	No
T1 core to secondary winding (reinforce)		AC	3000	No
Supplementary information:				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests (31581397.010) (2ACL)			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:				
Unit: Primary to PE (basic)		DC	2718	No
Reinforced:				
Unit: Primary to Secondary (reinforce)		AC	3000	No
One layer of insulation tape used in T1 (reinforce)		AC	3000	No
T1 primary winding to secondary winding (reinforce)		AC	3000	No
T1 core to secondary winding (reinforce)		AC	3000	No
Supplementary information:				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests (11040445.001) (2ABF)			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:				
Unit: Primary to PE (basic)		DC	2718	No
Reinforced:				
Unit: Primary to Secondary (reinforce)		AC	3000	No
One layer of insulation tape used in T1 (reinforce)		AC	3000	No
T1 primary winding to secondary winding (reinforce)		AC	3000	No
T1 core to secondary winding (reinforce)		AC	3000	No

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests (KPL)			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:				
L to N (fuse opened)		AC	1500	No
Unit: primary to earth		AC	1828	No
Reinforced:				
Unit: primary to secondary (PB removed)		AC	3000	No
Unit: Primary and enclosure (with metal foil)		AC	3000	No
T1: primary to secondary		AC	3000	No
T1: Secondary to core		AC	3000	No
One layer of insulation tape		AC	3000	No
Insulator sheet (for PCB with fuse: FUSE1 only)		AC	3000	No
Supplementary information:				

5.3	TABLE: Fault condition tests (31581397.020)					P
Ambient temperature (°C)					25 °C if no other specified.	—
Power source for EUT: Manufacturer, model/type, output rating					--	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Model: 2ACL068S						
BD1	Short (SC)	240V	1 sec	F1,F2	--	F1, F2 ,BD1 opened No hazardous; Hi-pot passes
C2	Short (SC)	240V	1 sec	F1,F2	--	F1, F2 ,BD1 opened No hazardous; Hi-pot passes
Q1 (G-S)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
Q1 (D-S)	Short (SC)	240V	1 sec	F1,F2	--	F1, F2 , opened R9, R15, R16, R18,R23, Q1 damaged No hazardous; Hi-pot passes
Q1 (D-G)	Short (SC)	240V	1 sec	F1,F2	--	F1, F2 , opened R9, R15, R16, R18,R23, Q1 damaged No hazardous; Hi-pot passes

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Clause	Requirement + Test				Result - Remark	Verdict
R9	Short (SC)	240V	30mins	F1,F2	0.818	Normal working, PF=0.362 No hazardous; Hi-pot passes
IC3 (1-5)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC3 (2-5)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, IC3 damaged No hazardous; Hi-pot passes
IC1 (1-2)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC1 (3-4)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
Q2 (D-S)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 (1-3)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 (4-6)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 (8, 9 – 11, 12)	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
Output	Short (SC)	240V	30mins	F1,F2	0.025	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
Output MODEL: 2ACL0068S	Overload	240V	5.5hr	F1	0.634	Temp. was stable at load 1.46A, Maximum temperature Ambient=28.7°C, T1 coil=90.0°C, T1 core=81.7°C, External plastic enclosure above T1=58.4°C, No hazardous; Hi-pot passes
Output MODEL: 2ACL030B	Overload	240V	4hr	F1,F2	0.339	Temp. was stable at load 7.6A, Maximum temperature Ambient=30.1°C, T1 coil=83.0°C, T1 core=78.8°C, External plastic enclosure above T1=58.2°C No hazardous; Hi-pot passes
Output MODEL: 2ACL060K	Overload	240V	4hr	F1,F2	0.651	Temp. was stable at load 4.3A, Maximum temperature Ambient=24.7°C, T1 coil=97.8°C, T1 core=92.1°C, External plastic enclosure above T1=63.9°C No hazardous; Hi-pot passes

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Clause	Requirement + Test				Result - Remark	Verdict
Output MODEL: 2ACL060M	Overload	240V	4hr	F1,F2	0.676	Temp. was stable at load 3.3A, Maximum temperature Ambient=26.0°C, T1 coil=90.5°C, T1 core=87.3°C, External plastic enclosure above T1=58.6°C No hazardous; Hi-pot passes
Output MODEL: 2ACL065R	Overload	240V	4hr	F1,F2	0.756	Temp. was stable at load 1.9A, Maximum temperature Ambient=25.5°C, T1 coil= 104.8°C, T1 core=97.5°C, External plastic enclosure above T1=65.0°C No hazardous; Hi-pot passes
Output MODEL: 2ACL065U	Overload	240V	4hr	F1,F2	0.743	Temp. was stable at load 1.48A, Maximum temperature Ambient=24.6°C, T1 coil= 110.4°C, T1 core=103°C External plastic enclosure above T1=72.4°C No hazardous; Hi-pot passes
Supplementary information: 1. For fuse opened conditions, same result came out for each source of fuse. 2. In fault column, where S-C=short-circuited, O-C=disconnected and O-L=overload 3. Test items where components were damaged were repeated twice with same outcome. 4. Maximum temperatures limitation of safety isolation transformers based on a test temperature of 40°C: Class B: Tmax = 175 °C – (40-25) °C = 160 °C. 5. “→” indicates current ranging during single fault conditions						

5.3	TABLE: Fault condition tests (31581397.016)					P
	Ambient temperature (°C)				25 °C if no other specified.	—
	Power source for EUT: Manufacturer, model/type, output rating				--	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Model: KPL-065A-KV (F1: T8A, F2:T3.15A)						
LF1 Pin 1-2	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, No hazardous; Hi-pot passes
LF2 Pin 1-2	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, No hazardous; Hi-pot passes
BD1 Pin 2-3	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, No hazardous; Hi-pot passes
C2	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, No hazardous; Hi-pot passes
Q1 Pin G-S	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes

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Clause	Requirement + Test				Result - Remark	Verdict
Q1 Pin S-D	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, BD1, R9, R15, R16, R18,R23, Q1 damaged No hazardous; Hi-pot passes
Q1 Pin G-D	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, BD1, R9, R15, R16, R18,R23, Q1 damaged No hazardous; Hi-pot passes
R6	Open (O-C)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
R23	Short (SC)	240V	1 sec	F1, F2	--	F1,F2 opened, BD1, Q1 damaged No hazardous; Hi-pot passes
D2	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
D3	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC1 Pin 1-2	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC1 Pin 3-4	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC1 Pin 1	Open (OC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC1 Pin 3	Open (OC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC3 Pin 1-5	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
IC3 Pin 2-5	Short (SC)	240V	1 sec	F1, F2	0.023	Unit shutdown immediately, IC3 damaged No hazardous; Hi-pot passes
T1 Pin 1-4	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 Pin 3-6	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
T1 Pin 8 – 11, 12	Short (SC)	240V	30mins	F1, F2	0.023	Unit shutdown immediately, recoverable No hazardous; Hi-pot passes
Output MODEL: KPL- 065A-KV	Short (SC)	240V	30mins	F1, F2	0.023	Unit shut down No hazardous; Hi-pot passes

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Clause	Requirement + Test				Result - Remark	Verdict
Output MODEL: KPL-065A-KV	Overload	240V	6hr	F1, F2	1.03	Temp. was stable at load 2.47A, Maximum temperature Ambient=28.3°C, T1 coil=92.4°C, T1 core=83.3°C No hazardous; Hi-pot passes
Supplementary information: 1. For fuse opened conditions, same result came out for each source of fuse. 2. In fault column, where S-C=short-circuited, O-C=disconnected and O-L=overload 3. Test items where components were damaged were repeated twice with same outcome. 4. Maximum temperatures limitation of safety isolation transformers based on a test temperature of 40°C: Class B: Tmax = 175 °C – (40-25) °C = 160 °C. 5. “→” indicates current ranging during single fault conditions						

5.3	TABLE: Fault condition tests (31581397.014)					P
	Ambient temperature (°C)				25 °C if no other specified.	—
	Power source for EUT: Manufacturer, model/type, output rating				--	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Model: 2ACL030B						
T1 pin 1 to 3	Short (SC)	240V	30mins	F1	0.025→ 0.116	Unit shut down No hazardous; Hi-pot passes
T1 pin 4 to 6	Short (SC)	240V	30mins	F1	0.025→ 0.185	Unit shut down No hazardous; Hi-pot passes
T1 pin 7 to 8,9	Short (SC)	240V	30mins	F1	0.025→ 0.076	Unit shut down No hazardous; Hi-pot passes
T1 pin 8,9 to 11,12	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
Q2 (D-S)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
Output MODEL: 2ACL030B	Short (SC)	240V	30mins	F1	0.025→ 0.091	Unit shut down No hazardous; Hi-pot passes
Output MODEL: 2ACL030B	Overload	240V	4hr	F1	0.339	Temp. was stable at load 7.6A, Maximum temperature Ambient=30.1°C, T1 coil=83.0°C, T1 core=78.8°C No hazardous; Hi-pot passes
Model: KPL-065U-VI						
T1 pin 1 to 4	Short (SC)	240V	30mins	F1	0.024	Unit shut down No hazardous; Hi-pot passes

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Clause	Requirement + Test				Result - Remark	Verdict

T1 pin 3 to 6	Short (SC)	240V	30mins	F1	0.024	Unit shut down No hazardous; Hi-pot passes
T1 pin 8,9 to 11,12	Short (SC)	240V	30mins	F1	0.024	Unit shut down No hazardous; Hi-pot passes
D3	Short (SC)	240V	30mins	F1	0.024	Unit shut down No hazardous; Hi-pot passes
Output MODEL: KPL065U	Short (SC)	240V	30mins	F1	0.024	Unit shut down No hazardous; Hi-pot passes
Output MODEL: KPL065U	Overload	240V	4hr	F1	0.718	Temp. was stable at load 1.64A, Maximum temperature Ambient=30.8°C, T1 coil=113.9°C, T1 core=109.8°C No hazardous; Hi-pot passes

Supplementary information:

1. For fuse opened conditions, same result came out for each source of fuse.
2. In fault column, where S-C=short-circuited, O-C=disconnected and O-L=overload
3. Test items where components were damaged were repeated twice with same outcome.
4. Maximum temperatures limitation of safety isolation transformers based on a test temperature of 40°C:
Class B: Tmax = 175 °C – (40-25) °C = 160 °C.
5. “→” indicates current ranging during single fault conditions

5.3	TABLE: Fault condition tests (31581397.012) (GTR)					P
	Ambient temperature (°C)				25 °C if no other specified.	—
	Power source for EUT: Manufacturer, model/type, output rating				--	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
BD1(+ ~ -)	Short (SC)	240V	1 sec	F1	--	F1 opened,BD1,damaged No hazardous; Hi-pot passes
C2	Short (SC)	240V	1 sec	F1	--	F1 opened,BD1,damaged No hazardous; Hi-pot passes
Q1 (G-S)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
Q1 (G-D)	Short (SC)	240V	1 sec	F1	--	F1 opened, Q1,IC3,BD1,D5,R9,R15,R16 damaged No hazardous; Hi-pot passes
Q1 (D-S)	Short (SC)	240V	1 sec	F1	--	F1 opened, Q1,IC3,BD1,R9,R15,R16 damaged No hazardous; Hi-pot passes
R9	Short (SC)	240V	30mins	F1	0.025→ 0.097	Unit shut down No hazardous; Hi-pot passes

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Clause	Requirement + Test	Result - Remark	Verdict

IC1 (1-2)	Short (SC)	240V	30mins	F1	0.025→ 0.081	Unit shut down No hazardous; Hi-pot passes
IC1 (3-4)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
IC3 (5-1)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
IC3 (5-2)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
T1 pin 1 to 3	Short (SC)	240V	30mins	F1	0.106→ 0.178	Unit shut down No hazardous; Hi-pot passes
T1 pin 6 to 7	Short (SC)	240V	30mins	F1	0.025→ 0.038	Unit shut down No hazardous; Hi-pot passes
T1 pin10 to 12	Short (SC)	240V	30mins	F1	0.025→ 0.073	Unit shut down No hazardous; Hi-pot passes
Q2 (D-S)	Short (SC)	240V	30mins	F1	0.025→ 0.039	Unit shut down No hazardous; Hi-pot passes
Output +5.2V	Short (SC)	240V	30mins	F1	0.227	+5.2V output shut down, +12V output normal working No hazardous; Hi-pot passes
Output +12V	Short (SC)	240V	30mins	F1	0.025→ 0.097	Unit shut down No hazardous; Hi-pot passes
Output +12V	Overload	240V	9hr	F1	0.510	Temp. was stable at load 3.3A, Maximum temperature Ambient=33.0°C, T1 coil=122.8°C, T1 core=118.2°C No hazardous; Hi-pot passes

Supplementary information:

1. For fuse opened conditions, same result came out for each source of fuse.
2. In fault column, where S-C=short-circuited, O-C=disconnected and O-L=overload
3. Test items where components were damaged were repeated twice with same outcome.
4. Maximum temperatures limitation of safety isolation transformers based on a test temperature of 40°C:
Class B: $T_{max} = 175\text{ °C} - (40-25)\text{ °C} = 160\text{ °C}$.
5. "→" indicates current ranging during single fault conditions

5.3	TABLE: Fault condition tests (31581397.010) (2ACL)		P
	Ambient temperature (°C)	25 °C if no other specified.	—
	Power source for EUT: Manufacturer, model/type, output rating	--	—

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Clause	Requirement + Test				Result - Remark	
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
BD1(+ ~ -)	Short (SC)	240V	1 sec	F1	--	F1 opened, BD1,TH1,damaged No hazardous; Hi-pot passes
C2	Short (SC)	240V	1 sec	F1	--	F1 opened, BD1,TH1,damaged No hazardous; Hi-pot passes
Q1 (G-S)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
Q1 (G-D)	Short (SC)	240V	1 sec	F1	--	F1 opened, Q1,IC3,BD1,TH1,R9, R15,R16,R18,R23 damaged No hazardous; Hi-pot passes
Q1 (D-S)	Short (SC)	240V	1 sec	F1	--	F1 opened, Q1,IC3,BD1,TH1,R9, R15,R16,R18,R23 damaged No hazardous; Hi-pot passes
R9	Short (SC)	240V	30mins	F1	0.025→ 0.177	Unit shut down No hazardous; Hi-pot passes
IC1 (1-2)	Short (SC)	240V	30mins	F1	0.025→ 0.142	Unit shut down No hazardous; Hi-pot passes
IC1 (3-4)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
IC3 (5-1)	Short (SC)	240V	30mins	F1	0.025	Unit shut down No hazardous; Hi-pot passes
IC3 (5-2)	Short (SC)	240V	30mins	F1	0.025	Unit shut down, IC3 damaged No hazardous; Hi-pot passes
T1 pin 1 to 3	Short (SC)	240V	30mins	F1	0.028→ 0.084	Unit shut down No hazardous; Hi-pot passes
T1 pin 4 to 6	Short (SC)	240V	30mins	F1	0.027→ 0.33	Unit shut down No hazardous; Hi-pot passes
T1 pin 8,9 to 11,12	Short (SC)	240V	30mins	F1	0.025→ 0.068	Unit shut down No hazardous; Hi-pot passes
Q2 (D-S)	Short (SC)	240V	30mins	F1	0.025→ 0.072	Unit shut down No hazardous; Hi-pot passes
Output MODEL: 2ACL060K	Short (SC)	240V	30mins	F1	0.026→ 0.094	Unit shut down No hazardous; Hi-pot passes
Output MODEL: 2ACL060K	Overload	240V	4hr	F1	0.651	Temp. was stable at load 4.3A, Maximum temperature Ambient=24.7°C, T1 coil=97.8°C, T1 core=92.1°C No hazardous; Hi-pot passes
Output MODEL: 2ACL060M	Short (SC)	240V	30mins	F1	0.027→ 0.092	Unit shut down No hazardous; Hi-pot passes

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Clause	Requirement + Test				Result - Remark	
Output MODEL: 2ACL060M	Overload	240V	4hr	F1	0.676	Temp. was stable at load 3.3A, Maximum temperature Ambient=24.7°C, T1 coil=90.5°C, T1 core=87.3°C No hazardous; Hi-pot passes
Output MODEL: 2ACL065R	Short (SC)	240V	30mins	F1	0.025→ 0.074	Unit shut down No hazardous; Hi-pot passes
Output MODEL: 2ACL065R	Overload	240V	4hr	F1	0.756	Temp. was stable at load 1.9A, Maximum temperature Ambient=25.5°C, T1 coil=104.8°C, T1 core=97.5°C No hazardous; Hi-pot passes
Output MODEL: 2ACL065U	Short (SC)	240V	30mins	F1	0.034→ 0.082	Unit shut down No hazardous; Hi-pot passes
Output MODEL: 2ACL065U	Overload	240V	4hr	F1	0.743	Temp. was stable at load 1.48A, Maximum temperature Ambient=24.6°C, T1 coil=110.4°C, T1 core=103°C No hazardous; Hi-pot passes
Supplementary information: 1. For fuse opened conditions, same result came out for each source of fuse. 2. In fault column, where S-C=short-circuited, O-C=disconnected and O-L=overload 3. Test items where components were damaged were repeated twice with same outcome. 4. Maximum temperatures limitation of safety isolation transformers based on a test temperature of 40°C: Class B: Tmax = 175 °C – (40-25) °C = 160 °C. 5. "→" indicates current ranging during single fault conditions						

5.3	TABLE: Fault condition tests (11040445.001) (2ABF)					P
	Ambient temperature (°C)				25 °C if no other specified.	—
	Power source for EUT: Manufacturer, model/type, output rating				--	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
BD1(+ ~ -)	S-C	240	1s	F1	--	F1 open, no hazards, Hi-pot passes
C1	S-C	240	1s	F1	--	F1 open, no hazards, Hi-pot passes
Q2(D-G)	S-C	240	1s	F1	--	F1 open, Q2, R34, R35, R36, R37, R38 damage, no hazards.
Q2(G-S)	S-C	240	30mins	F1	0.79 to 0.03	Unit shutdown immediately, No damage, no hazards. Hi-pot passes
Q2(D-S)	S-C	240	1s	F1	--	F1 open, Q2, R34, R35, R36, R37, R38 damage, no hazards. Hi-pot passes

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Clause	Requirement + Test				Result - Remark	
R36	S-C	240	1s	F1	--	F1 open, Q2, U2, BD1 damage, no hazards. Hi-pot passes
U4(1-2)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
U4(3-4)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
U4(1)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
U4(3)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
T1(1-3)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
T1(4-6)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
T1(8,9-11,12)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
U2(5-2)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
U2(5-2)	S-C	240	10mins	F1	0.79 to 0.03	Unit shutdown immediately, no damage, no hazards.
Output Model: 2ABF065F	O-L	240	5hrs	F1	0.77 to 0.86 to 0.91 to 0.2	Temp. was stable at load 6.65A, Maximum temperature Ambient=26°C, T1 coil=81.1°C, T1 core=74.5°C, Unit shutdown at load 7.0A, No damage. No hazard.
Output Model: 2ABF065F	S-C	240	30mins	F1	0.77 to 0.03	Unit shutdown immediately. No damage. No hazard.
Output Model: 2ABF060R	O-L	240	5hrs	F1	0.83 to 0.93 to 0.98 to 0.2	Temp. was stable at load 1.9A, Maximum temperature Ambient=25.3°C, T1 coil=92.9°C, T1 core=79.6°C, Unit shutdown at load 2.0A. No damage. No hazard.
Output Model: 2ABF065F	S-C	240	30 mins	F1	0.83 to 0.03	Unit shutdown immediately. No damage. No hazard.
Supplementary information: 1. For fuse opened conditions, same result came out for each source of fuse. 2. In fault column, where S-C=short-circuited, O-C=disconnected and O-L=overload 3. Test items where components were damaged were repeated twice with same outcome. 4. Maximum temperatures limitation of safety isolation transformers based on a test temperature of 40°C: Class B: T _{max} = 175 °C – (40-25) °C = 160 °C.						
5.3	TABLE: Fault condition tests KPL (PCB with fuses: F1, F2) (31581397.001)					P

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Clause	Requirement + Test				Result - Remark	
	Ambient temperature (°C) :				25 °C if no other specified.	
	Power source for EUT: Manufacturer, model/type, output rating :				--	
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Model: KPL-060I-VI						
Output	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	6 hrs 34 mins	F1, F2	0.928	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=83.0 °C, T1 core=71.8 °C, Ambient=25.8°C) Max overload current 4.7 A NC, NT, NB. No hazards
LF1 Pin 1-2	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately NC, NT, NB. No hazards
LF2 Pin 1-2	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately NC, NT, NB. No hazards
BD1 Pin 2-3	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately CD(BD1) NC, NT, NB. No hazards
C2	s-c	240V	<1 sec	F1, F2	-	F1, F2 opened immediately NC, NT, NB. No hazards
Q1 Pin G-S	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards.
Q1 Pin S-D	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
Q1 Pin G-D	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
R6	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(Q1, BD1) NC, NT, NB. No hazards
D2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards

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Clause	Requirement + Test				Result - Remark	Verdict
IC1 Pin 1-2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3-4	s-c	240V	10mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC3 Pin 1-5	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 3-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(IC3, BD1, Q1, R9, R15, R16, R18, R23) NC, NT, NB. No hazards
T1 Pin 1-4	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 3-6	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Model: KPL-066F-VI						
Output	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	17Hours 25mins	F1, F2	1.01	CT(Max. temp: T1 coil=100.8C, T1 core=87.3C, Ambient=26.5C) Max overload current 7.16 A NC, NT, NB. No hazards
LF1 Pin 1-2	s-c	240V	<1 sec	F1, F2	--	F1, F2 opened immediately NC, NT, NB. No hazards
LF2 Pin 1-2	s-c	240V	<1 sec	F1, F2	--	F1, F2 opened immediately NC, NT, NB. No hazards
BD1 Pin 2-3	s-c	240V	<1 sec	F1, F2	--	F1, F2 opened immediately CD (BD1) NC, NT, NB. No hazards

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Clause	Requirement + Test				Result - Remark	Verdict
C2	s-c	240V	<1 sec	F1, F2	--	F1, F2 opened immediately NC, NT, NB. No hazards
Q1 Pin G-S	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards.
Q1 Pin S-D	s-c	240V	<1 sec	F1, F2	--	F1, F2 opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
Q1 Pin G-D	s-c	240V	<1 sec	F1, F2	--	F1, F2 opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
R6	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	F1, F2	-	F1, F2 opened immediately CD(Q1, BD1) NC, NT, NB. No hazards
D2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3 D6	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1-2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3-4	s-c	240V	10mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC3 Pin 1-5	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 3-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD (IC3, BD1, Q1, R9, R15, R16, R18, R23), NC, NT, NB. No hazards
T1 Pin 1-4	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards

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Clause	Requirement + Test				Result - Remark	Verdict
T1 Pin 3-6	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Model: KPL-065J-VI						
Output	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	18Hour	F1, F2	0.983	CT (Max. temp: T1 coil=86.2 °C, T1 core=72.6 °C, Ambient=25.1°C) Max overload current 4.5 A NC, NT, NB. No hazards
LF1 Pin 1-2	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately NC, NT, NB. No hazards
LF2 Pin 1-2	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately NC, NT, NB. No hazards
BD1 Pin 2-3	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately CD (BD1) NC, NT, NB. No hazards
C2	s-c	240V	<1 sec	F1, F2	-	F1, F2 opened immediately NC, NT, NB. No hazards
Q1 Pin G-S	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards.
Q1 Pin S-D	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
Q1 Pin G-D	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
R6	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(Q1, BD1) NC, NT, NB. No hazards
D2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1-2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3-4	s-c	240V	10mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards

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Clause	Requirement + Test				Result - Remark	Verdict
IC1 Pin 1	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC3 Pin 1-5	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 3-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(IC3, BD1, Q1, R9, R15, R16, R18, R23) NC, NT, NB. No hazards
T1 Pin 1-4	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 3-6	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Model: KPL-065M-VI						
Output	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	12 hrs 38 mins	F1, F2	1.067	CT (Max. temp: T1 coil=112.9 °C, T1 core=100.3 °C, Ambient=22.8°C) Max overload current 3.41 A NC, NT, NB. No hazards
LF1 Pin 1-2	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately NC, NT, NB. No hazards
LF2 Pin 1-2	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately NC, NT, NB. No hazards
BD1 Pin 2-3	s-c	240V	<1 sec	F1, F2	-	F1,F2 opened immediately CD(BD1) NC, NT, NB. No hazards
C2	s-c	240V	<1 sec	F1, F2	-	F1, F2 opened immediately NC, NT, NB. No hazards
Q1 Pin G-S	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards.

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Clause	Requirement + Test				Result - Remark	Verdict
Q1 Pin S-D	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
Q1 Pin G-D	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
R6	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(Q1, BD1) NC, NT, NB. No hazards
D2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3 D6	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1-2	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3-4	s-c	240V	10mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3	o-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC3 Pin 1-5	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 3-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	<1 sec	F1, F2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	F1, F2	-	Fuse opened immediately CD(IC3, BD1, Q1, R9, R15, R16, R18, R23) NC, NT, NB. No hazards
T1 Pin 1-4	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 3-6	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	F1, F2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards

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Clause	Requirement + Test				Result - Remark		Verdict
Model: KPL-065S-VI							
Output	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards	
Output	o-l	240V	12Hour4 6mins	Fuse 1 Fuse 2	0.974	CT(Max. temp: T1 coil=81.2 °C, T1 core=72.2 °C, Ambient=26.2°C) Max overload current 1.6 A NC, NT, NB. No hazards	
LF1 Pin 1-2	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	F1,F2 opened immediately NC, NT, NB. No hazards	
LF2 Pin 1-2	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	F1,F2 opened immediately NC, NT, NB. No hazards	
BD1 Pin 2-3	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	F1,F2 opened immediately CD(BD1) NC, NT, NB. No hazards	
C2	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	F1, F2 opened immediately NC, NT, NB. No hazards	
Q1 Pin G-S	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards.	
Q1 Pin S-D	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards	
Q1 Pin G-D	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards	
R6	o-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards	
R23	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	Fuse opened immediately CD(Q1, BD1) NC, NT, NB. No hazards	
D2	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards	
D3	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards	
IC1 Pin 1-2	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards	
IC1 Pin 3-4	s-c	240V	10mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards	
IC1 Pin 1	o-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards	
IC1 Pin 3	o-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards	

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Clause	Requirement + Test	Result - Remark	Verdict

IC3 Pin 1-5	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 3-5	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	RT*, CD(IC3) NC, NT, NB. No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	Fuse 1 Fuse 2	-	Fuse opened immediately CD(IC3, BD1, Q1, R9, R15, R16, R18, R23) NC, NT, NB. No hazards
T1 Pin 1-4	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 3-6	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	Fuse 1 Fuse 2	0.024	Unit shut down. IP(IC3) NC, NT, NB, No hazards

Supplementary information:

- 1) For fuse opened conditions, same result came out for each source of fuse.
- 2) In fault column, where s-c=short-circuited and o-l=overload, o-c = open circuit.
- 3) Test items where components were damaged were repeated twice with same outcome.
- 4) Maximum temperatures limitation of safety isolation transformers based on a test temperature of 25 °C:
Class B: $T_{max} = 175^{\circ}\text{C} - (45-25)^{\circ}\text{C} = 155^{\circ}\text{C}$.
- 5) In Observation column:
IP = Internal protection operated (component indicated), CT = Constant temperatures were obtained,
TW = Transformer winding opened, CD = Components damaged (damaged components indicated),
NB = No indication of dielectric breakdown, YB = Dielectric breakdown (time and location indicated),
NC = Cheesecloth remained intact, YC = Cheesecloth charred or flamed,
NT = Tissue paper remained intact, YT = Tissue paper charred or flamed,
RT* = Tested three times with same result obtained.

5.3	TABLE: Fault condition tests KPL (PCB with fuse: FUSE1) (15077081.001)					P
	Ambient temperature (°C)				25 °C if no other specified.	—
	Power source for EUT: Manufacturer, model/type, output rating				--	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Model: KPL-065F						

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Clause	Requirement + Test			Result - Remark		Verdict
LF1 Pin 1-2	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately NC, NT, NB. No hazards
LF2 Pin 1-2	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately NC, NT, NB. No hazards
BD1 Pin 2-3	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1) NC, NT, NB. No hazards
C2	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1) NC, NT, NB. No hazards
Q1 Pin G-S	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards.
Q1 Pin S-D	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1, C2, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
Q1 Pin G-D	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards
R6	o-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(Q1, BD1) NC, NT, NB. No hazards
D2	s-c	240V	10 mins	Fuse 1	0.084	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3	s-c	240V	10 mins	Fuse 1	0.136	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1-2	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3-4	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 1	o-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC1 Pin 3	o-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC3 Pin 1-5	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	Fuse 1	--	RT*, CD(IC3) NC, NT, NB, No hazards.
IC3 Pin 3-5	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB, No hazards

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Clause	Requirement + Test				Result - Remark	Verdict
IC3 Pin 4-5	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB, No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(IC3, BD1, Q1, R9, R15, R16, R18, R23), NC, NT, NB. No hazards
T1 Pin 1-4	s-c	240V	10 mins	Fuse 1	0.121	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 3-6	s-c	240V	10 mins	Fuse 1	0.200	Unit shut down. IP(IC3) NC, NT, NB, No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	Fuse 1	0.200	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Model: KPL-065M						
LF1	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately NC, NT, NB. No hazards.
LF2	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately NC, NT, NB. No hazards.
BD1 Pin 2-3	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1) NC, NT, NB. No hazards.
C2	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1) NC, NT, NB. No hazards.
Q1 Pin G-S	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards.
Q1 Pin S-D	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards.
Q1 Pin G-D	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(BD1, R9, R15, R16, R18, R23, Q1) NC, NT, NB. No hazards.
R6	o-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
R23	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately CD(Q1, BD1) NC, NT, NB. No hazards.
D2	s-c	240V	10 mins	Fuse 1	0.080	Unit shut down. IP(IC3) NC, NT, NB. No hazards
D3	s-c	240V	10 mins	Fuse 1	0.138	Unit shut down. IP(IC3) NC, NT, NB. No hazards

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Clause	Requirement + Test				Result - Remark	Verdict
IC1 Pin 1-2	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 3-4	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 1	o-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC1 Pin 3	o-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 1-5	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 2-5	s-c	240V	<1 sec	Fuse 1	--	RT*, CD(IC3) NC, NT, NB, No hazards.
IC3 Pin 3-5	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 4-5	s-c	240V	10 mins	Fuse 1	0.025	Unit shut down. IP(IC3) NC, NT, NB. No hazards
IC3 Pin 6-5	s-c	240V	<1 sec	Fuse 1	--	Fuse opened immediately. CD(IC3, BD1, Q1, R9, R15, R16, R18, R23) NC, NT, NB, No hazards
T1 Pin 1-4	s-c	240V	10 mins	Fuse 1	0.132	Unit shut down. IP(IC3) NC, NT, NB. No hazards
T1 Pin 3-6	s-c	240V	10 mins	Fuse 1	0.118	Unit shut down. IP(IC3) NC, NT, NB. No hazards
T1 Pin 8, 9 – 11, 12	s-c	240V	10 mins	Fuse 1	0.142	Unit shut down. IP(IC3) NC, NT, NB. No hazards
Model: KPL-050F						
Output	s-c	240V	10 mins	Fuse1	0.102	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	8 hrs 1min	Fuse1	0.101	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=115.7 °C, T1 core=109.6 °C, Ambient=24.7 °C) Max overload current 6.0 A NC, NT, NB. No hazards
Model: KPL-050M						
Output	s-c	240V	10 mins	Fuse1	0.081	Unit shut down. IP(IC3) NC, NT, NB, No hazards
Output	o-l	240V	8 hrs 50 mins	Fuse1	0.080	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=97.1 °C, T1 core=90.5 °C, Ambient=24.7 °C) Max overload current 3.35 A NC, NT, NB. No hazards

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Clause	Requirement + Test				Result - Remark		Verdict
Model: KPL-065F							
Output	s-c	240V	10 mins	Fuse1	0.108	Unit shut down. IP(IC3) NC, NT, NB, No hazards	
Output	o-l	240V	9 hrs 47 mins	Fuse1	0.106	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=101.1 °C, T1 core=98.7 °C, Ambient=24.9 °C) Max overload current 6.95 A NC, NT, NB. No hazards	
Model: KPL-060I							
Output	s-c	240V	10 mins	Fuse1	0.100	Unit shut down. IP(IC3) NC, NT, NB, No hazards	
Output	o-l	240V	6 hrs 43 mins	Fuse1	0.100	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=91.5 °C, T1 core=86.9 °C, Ambient=24.3 °C) Max overload current 5.60 A NC, NT, NB. No hazards	
Model: KPL-065J							
Output	s-c	240V	10 mins	Fuse1	0.076	Unit shut down. IP(IC3) NC, NT, NB, No hazards	
Output	o-l	240V	9 hrs 6 mins	Fuse1	0.086	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=94.8 °C, T1 core=87.3 °C, Ambient=24.3 °C) Max overload current 4.55 A NC, NT, NB. No hazards	
Model: KPL-065M							
Output	s-c	240V	10 mins	Fuse1	0.092	Unit shut down. IP(IC3) NC, NT, NB, No hazards	
Output	o-l	240V	6 hrs 22 mins	Fuse1	0.096	Unit shut down. IP(IC3) CT(Max. temp: T1 coil=85.0 °C, T1 core=79.5 °C, Ambient=24.0 °C) Max overload current 3.1 A NC, NT, NB. No hazards.	

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

- 1) For fuse opened conditions, same result came out for each source of fuse.
 2) In fault column, where s-c=short-circuited and o-l=overload, o-c = open circuit.
 3) Test items where components were damaged were repeated twice with same outcome.
 4) Maximum temperatures limitation of safety isolation transformers based on a test temperature of 25 °C:
 Class B: Tmax = 175°C – (40-25)°C = 160°C.
 5) In Observation column,
 IP = Internal protection operated (component indicated), CT = Constant temperatures were obtained, TW = Transformer winding opened, CD = Components damaged (damaged components indicated), NB = No indication of dielectric breakdown, YB = Dielectric breakdown (time and location indicated), NC = Cheesecloth remained intact, YC = Cheesecloth charred or flamed, NT = Tissue paper remained intact, YT = Tissue paper charred or flamed, RT* = Repeat three times as same result obtained.

C.2	TABLE: Insulation of transformer: (31581397.016)					P
	Transformer part name	T1 (KPL PCB with F1, F2, Y=A)				—
	Manufacturer	See appended table 1.5.1				—
	Type	PQ-2620-36				—
Clearance (cl) and creepage distance (cr) at/of/between:		Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)
Primary to secondary (reinforced)		516	313	3000Vac	6.6	6.6
Secondary to core (reinforced)		516	313	3000Vac	6.6	6.6
Loc. Tested insulation				Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm
Secondary part and primary winding				3000Vac	9.3	9.3
Secondary part and core				3000Vac	6.8	6.8
supplementary information:						
1). Triple insulated wire was applied for secondary winding.						
2). Core is considered as primary part.						
C.2	TABLE: Construction of transformer:					P
Transformer See attachments for transformer specifications.						

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Clause	Requirement + Test	Result - Remark	Verdict

C.2	TABLE: Insulation of transformer: (31581397.014)		P
	Transformer part name	T1 (2ACLxxxY, Y=B)	—
	Manufacturer	See appended table 1.5.1	—
	Type	PQ2620-05	—

Clearance (cl) and creepage distance (cr) at/of/between:	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)
Primary to secondary (reinforced)	552	278	3000Vac	6.6	6.6
Secondary to core (reinforced)	552	278	3000Vac	6.6	6.6
Loc.			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm
Tested insulation					
Secondary part and primary winding			3000Vac	8.0	8.0
Secondary part and core			3000Vac	11	11
supplementary information:					
1). Triple insulated wire was applied for secondary winding					

C.2	TABLE: Construction of transformer:	P
Transformer See attachments for transformer specifications.		

C.2	TABLE: Insulation of transformer: (GTR) (31581397.012)		P
	Transformer part name	T1	—
	Manufacturer	See appended table 1.5.1	—
	Type	PQ2620-19	—

Clearance (cl) and creepage distance (cr) at/of/between:	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)
Primary to secondary (reinforced)	530	298	3000Vac	6.6	6.6
Secondary to core (reinforced)	530	298	3000Vac	6.6	6.6
Loc.			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm
Tested insulation					
Secondary part and primary winding			3000Vac	7.0	7.0
Secondary part and core			3000Vac	15.0	15.0
supplementary information:					
1). Triple insulated wire was applied for secondary winding					

C.2	TABLE: Construction of transformer:		P
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Clause	Requirement + Test	Result - Remark	Verdict

Transformer
See attachments for transformer specifications.

C.2	TABLE: Insulation of transformer: (2ACL) (31581397.010)					P
	Transformer part name	T1				—
	Manufacturer	See appended table 1.5.1				—
	Type	PQ2620-19				—
Clearance (cl) and creepage distance (cr) at/of/between:		Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)
Primary to secondary (reinforced)		600	329	3000Vac	6.9	6.9
Secondary to core (reinforced)		600	329	3000Vac	6.9	6.9
Loc. Tested insulation				Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm
Secondary part and primary winding				3000Vac	14	14
Secondary part and core				3000Vac	9	9
supplementary information:						
1). Triple insulated wire was applied for secondary winding						
C.2	TABLE: Construction of transformer:					P
Transformer See attachments for transformer specifications.						

C.2	TABLE: Insulation of transformer: (2ABF) (11040445.001)					P
	Transformer part name	T1				—
	Manufacturer	See appended table 1.5.1				—
	Type	PQ2620-12				—
Clearance (cl) and creepage distance (cr) at/of/between:		Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)
Primary to secondary (reinforced)		560	325	3000Vac	6.6	6.6
Secondary to core (reinforced)		560	325	3000Vac	6.6	6.6
Loc. Tested insulation				Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm
Secondary part and primary winding				3000Vac	6.8	6.8
Secondary part and core				3000Vac	6.8	6.8

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Clause	Requirement + Test	Result - Remark	Verdict

supplementary information:

1). Triple insulated wire was applied for secondary winding

C.2	TABLE: Construction of transformer:	P
Transformer See attachments for transformer specifications.		

C.2	TABLE: Insulation of transformer: (2ABF) (11040445.001)	P
	Transformer part name: T1	—
	Manufacturer: See appended table 1.5.1	—
	Type: PQ2620-48	—

Clearance (cl) and creepage distance (cr) at/of/between:	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)
Primary to secondary (reinforced)	612	362	3000Vac	6.9	7.3
Secondary to core (reinforced)	612	362	3000Vac	6.9	7.3
Loc.			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm
Tested insulation					
Secondary part and primary winding			3000Vac	7.6	7.6
Secondary part and core			3000Vac	7.6	7.6

supplementary information:

1). Triple insulated wire was applied for secondary winding

C.2	TABLE: Construction of transformer:	P
Transformer See attachments for transformer specifications.		

C.2	TABLE: Insulation of transformer: (KPL: PCB with fuses: F1, F2) (31581397.001)	P
	Transformer part name: T1	—
	Manufacturer: See appended table 1.5.1	—
	Type: PQ-2620-12-VI	—

Clearance (cl) and creepage distance (cr) at/of/between:	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)
Primary winding to secondary winding	510	338	3000Vac	6.68	6.76
Secondary winding to core	510	338	3000Vac	6.68	6.76

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Clause	Requirement + Test			Result - Remark	Verdict
Primary winding to secondary pin	510	338	3000Vac	6.68	6.76
Core to Secondary pin	510	338	3000Vac	6.68	6.76
Loc. Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm
Primary winding to secondary winding			3000Vac	See note 1	See note 1
Secondary winding to core			3000Vac	See note 1	See note 1
Primary winding to secondary pin			3000Vac	7.4	7.4
Core to Secondary pin			3000Vac	12	12
supplementary information:					
1). Triple insulated wire was applied for secondary winding					
C.2	TABLE: Construction of transformer:				P
Transformer See attachments for transformer specifications.					

C.2	TABLE: Insulation of transformer: (KPL: PCB with fuses: F1, F2) (31581397.001)					P
	Transformer part name	T1				—
	Manufacturer	See appended table 1.5.1				—
	Type	PQ-2620-17				—
Clearance (cl) and creepage distance (cr) at/of/between:		Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)
Primary winding to secondary winding		510	338	3000Vac	6.68	6.76
Secondary winding to core		510	338	3000Vac	6.68	6.76
Primary winding to secondary pin		510	338	3000Vac	6.68	6.76
Core to Secondary pin		510	338	3000Vac	6.68	6.76
Loc. Tested insulation				Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm
Primary winding to secondary winding				3000Vac	See note 1	See note 1
Secondary winding to core				3000Vac	See note 1	See note 1
Primary winding to secondary pin				3000Vac	7.4	7.4
Core to Secondary pin				3000Vac	12	12
supplementary information:						

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Clause	Requirement + Test	Result - Remark	Verdict

1). Triple insulated wire was applied for secondary winding

C.2	TABLE: Construction of transformer:	P
Transformer See attachments for transformer specifications.		

C.2	TABLE: Insulation of transformer: (KPL: PCB with fuses: F1, F2) (31581397.001) (31581397.014 modified)	P
	Transformer part name: T1	—
	Manufacturer: See appended table 1.5.1	—
	Type: PQ-2620-48	—

Clearance (cl) and creepage distance (cr) at/of/between:	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)
Primary winding to secondary winding	544	338	3000Vac	6.68	6.76
Secondary winding to core	544	338	3000Vac	6.68	6.76
Primary winding to secondary pin	544	338	3000Vac	6.68	6.76
Core to Secondary pin	544	338	3000Vac	6.68	6.76
Loc.			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm
Tested insulation					
Primary winding to secondary winding			3000Vac	See note 1	See note 1
Secondary winding to core			3000Vac	See note 1	See note 1
Primary winding to secondary pin			3000Vac	7.4	7.4
Core to Secondary pin			3000Vac	12	12

supplementary information:

1). Triple insulated wire was applied for secondary winding

C.2	TABLE: Construction of transformer:	P
Transformer See attachments for transformer specifications.		

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
C.2	TABLE: Insulation of transformer: (KPL: PCB with fuse: FUSE1) (15077081.001)					P
	Transformer part name			T1		—
	Manufacturer			See appended table 1.5.1		—
	Type			PQ-2620-12		—
Clearance (cl) and creepage distance (cr) at/of/between:		Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)
Primary winding to secondary winding		556	324	3000Vac	6.52	6.8
Secondary winding to core		556	324	3000Vac	6.52	6.8
Primary winding to secondary pin		556	324	3000Vac	6.52	6.8
Core to Secondary pin		556	324	3000Vac	6.52	6.8
Loc.				Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm
Tested insulation						
Primary winding to secondary winding				3000Vac	See note 1	See note 1
Secondary winding to core				3000Vac	See note 1	See note 1
Primary winding to secondary pin				3000Vac	7.4	7.4
Core to Secondary pin				3000Vac	12	12
supplementary information:						
1). Triple insulated wire was applied for secondary winding						
C.2	TABLE: Construction of transformer:					P
Transformer See attachments for transformer specifications.						

C.2	TABLE: Insulation of transformer: (KPL: PCB with fuse: FUSE1) (15077081.001)					P
	Transformer part name			T1		—
	Manufacturer			See appended table 1.5.1		—
	Type			PQ-2620-17		—
Clearance (cl) and creepage distance (cr) at/of/between:		Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)
Primary winding to secondary winding		556	324	3000Vac	6.52	6.8

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Secondary winding to core	556	324	3000Vac	6.52	6.8
Primary winding to secondary pin	556	324	3000Vac	6.52	6.8
Core to Secondary pin	556	324	3000Vac	6.52	6.8
Loc.			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm
Tested insulation					
Primary winding to secondary winding			3000Vac	See note 1	See note 1
Secondary winding to core			3000Vac	See note 1	See note 1
Primary winding to secondary pin			3000Vac	7.4	7.4
Core to Secondary pin			3000Vac	12	12
supplementary information:					
1). Triple insulated wire was applied for secondary winding					
C.2	TABLE: Construction of transformer:				P
Transformer See attachments for transformer specifications.					

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to TMP/CTF stage 1 or WMT/CTF stage 2 procedure has been used.

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date
1.6.2/2.1.1 .7/2.2/2.5/ 4.5/5.3	Input Current/Heating Test/ Discharge of capacitor / LPS/Heating Test/ / Abnormal	Chroma AC Source / 61505 / #1	0-300V/ 0-20A	12/28/2017
1.6.2/4.5/ 5.3	Input Current/Heating Test/ Abnormal	Chroma Power Meter / 66202 / #18	0-300V/ 0-20A	12/28/2017
2.1.1.5	Energy hazards	Chroma Power Meter / 66202 / #18	0-300V/ 0-20A	12/28/2017
2.1.1.5	Energy hazards	Digital Multimeter / Agilent-344041A / #15	--	12/27/2017
2.1.1.7	Discharge of capacitor	Oscilloscope / Tektronix – TDS3014C / #17	--	12/27/2017
2.2	SELV circuits	Digital Multimeter / Agilent-344041A / #15	--	12/27/2017
2.5	LPS	Digital Multimeter / Agilent-344041A / #15	--	12/27/2017
2.10	Creepage and Clearance	Digital Caliper / ED&D - DCP-01 / #24	0-100mm	02/20/2018
4.5	Heating Test	Agilent Data Acquisition / 34970A / #6	0°C–150°C	12/27/2017
4.5	Heating Test	Environment Chamber / 1007H / #14	-40°C–70°C / 25%RH–90%RH	12/27/2017
4.5	Heating Test	Stopwatch / CSW-01 / #23	0-30mins	02/20/2018
5.3	Electric Strength	Hi-pot Tester / Associated Research– 3770 / #11	0-5kVrms / 0-6kVdc	12/27/2017
5.3	Electric Strength	Stopwatch / CSW-01 / #23	0-30mins	02/20/2018
5.3	Abnormal	Agilent Data Acquisition / 34970A / #6	0°C–150°C	12/27/2017
5.3	Abnormal	Chroma Power Meter / 66202 / #18	0-300V/ 0-20A	12/28/2017

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 DENMARK NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to : DS/EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013			

1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	No supply cord with plug provided.	N/A
1.7.5	In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.	No supply cord with plug provided.	N/A
3.2.1.1	In Denmark , supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.	No supply cord with plug provided.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 ITALY NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to: EN 60950-1:2006/A2:2013			

Annex ZA	Normative references to international publications with their corresponding European publications		P
Annex ZB	Special national conditions		--
1.7.2.1	In Denmark, Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord." In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"	No supply cord with plug provided.	N/A
1.7.5	In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011. For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a. Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b. Justification the Heavy Current Regulations, 6c	No supply cord with plug provided.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Justification the Heavy Current Regulations, 6c	No supply cord with plug provided.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Annex ZD
(informative)

IEC and CENELEC code designations for flexible cords

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60277 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 SWEDEN NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to: SS-EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011			

Various	Please see the EN version of the standard where the Swedish National and Special National Deviations are stated.	P
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IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
CANADA NATIONAL DIFFERENCES
 Information technology equipment – Safety –
 Part 1: General requirements

Differences according to: CAN/CSA C22.2 No. 60950-1-07+A1:2011+A2:2014

SPECIAL NATIONAL CONDITIONS

The following is a summary of the key national differences based on national regulatory requirements, such as the Canadian Electrical Code (CEC) Part and the Canadian Building Code, which are referenced in legislation and which form the basis for the rules and practices followed in electrical and building installations

1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Equipment is designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and. Also, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75	P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Not pluggable equipment	N/A
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.	No external interconnecting cables provided with unit	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		P
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and "Class 2" or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.	No Class 2 outputs	N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.	No such fuses	N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	No standard supply outlets, receptacles and medium-base or smaller lamp-holders	N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.	Comply	P
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	Supply cords are not part of this investigation.	N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.	Not intended to be connected to centralized d.c. power system	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	Pluggable equipment	N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. Flexible power supply cords are required to be compatible with Tables 11 and 12 of the CEC and Article 400 of the NEC.	Supply cords are not part of this investigation.	N/A
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	Pluggable equipment	N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.	Pluggable equipment	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).	Pluggable equipment	N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for Canadian/US wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).	Pluggable equipment	N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).	No such device	N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	Not such device	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.	Not with battery system	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No flammable liquid	N/A
4.3.13.5	Equipment with lasers is required to meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	No laser	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Not such equipment	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	Not such equipment	N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.	Equipment not produces ionizing radiation	N/A
OTHER DIFFERENCES			
The following key national differences are based on requirements other than national regulatory requirements			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.	Components comply with the requirements of this standard and applicable component standard. Non-approved components were subjected to the applicable tests of the equipment standard under the conditions occurring in the equipment	P

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage shall include consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.	No connections to DC mains	N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.	No TNV	N/A
2.6.3.3	The current rating of the circuit shall be taken as 20 A not 16 A	Considered	P
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.	Considered	P
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRT	N/A
4.3.2	Equipment with handles is required to comply with special loading tests.	No handles	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	No TNV	N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.	Not operator accessible.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No TNV	N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	See above	N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.	See above	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 US NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to: UL 60950-1 Am.1; Am.2			

Sub-Clause	National Condition		
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	EUT in compliance with requirements of IEC 60950-1. Overall acceptance shall be evaluated during national approval.	N/A
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings.	No interconnecting cables	N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3- wire) require a special marking format for electrical ratings. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."	Single-phase equipment	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with the NEC or CEC Part 1 shall be marked with the voltage rating and "Class 2" or equivalent. The marking shall be located adjacent to the terminals and shall be visible during wiring.	Not such an equipment	N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.		N/A
2.6	Equipment with isolated ground (earthing) receptacles are required to comply with NEC 250.146(D) and CEC 10-112 and 10-906(8).		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.	Overall acceptance has to be evaluated during the national approval process.	N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 & 12 of the CEC.	No power supply cord provided.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	See above	N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).		N/A
3.3.5	First column of Table 3E revised to require "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."		N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).	No motor control devices	N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	No such device	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.	Not such an equipment	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No flammable liquids	N/A
4.3.13.5.1	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No lasers or LEDs	P
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	No such applicable	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	No such applicable	N/A
4.7.3.1	Non-metallic enclosures of equipment for use in spaces used for environmental air (plenums) are required to comply with UL 2043.	No such applicable	N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	Not such an equipment	N/A

OTHER NATIONAL DIFFERENCES

Sub-Clause	National Condition		
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These components include: attachment plugs, battery backup systems, battery packs, cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, surge protective devices, tubing, vehicle battery adapters, wire connectors, and wire and cables.	Appropriately rated components	P

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as a SELV Circuit, a TNV-2 Circuit or a Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage shall include consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.	No connection to DC mains	N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.	No TNV	N/A
2.6.2	Equipment with functional earthing is required to be marked with the functional earthing symbol (IEC 60417-6092).		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.	No CRT	N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No handles provided	N/A
4.3.2	Equipment with handles is required to comply with special loading tests.		N/A
4.3.8	Battery packs for both portable and stationary applications are required to comply with special component requirements.	Not used	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	Not such an equipment	N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.	Complied. Refer to table 5.3 of IEC 60950-1 test report for details.	P

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No TNV	N/A
Annex EE	UL articulated accessibility probe (Fig EE.3) required for assessing accessibility to document/media shredders instead of the Figure 2A test finger.	Not such an equipment	N/A
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No TNV	N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.	No TNV	N/A

IEC 60950-1:2005+A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 KOREA NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to : K 60950-1			

1.5.101	Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305)	No power supply cord provided.	N/A
8	EMC The apparatus shall comply with the relevant CISPR standards.	To be evaluated when submitted for national approval.	N/A

IEC 60950-1:2005+A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 FINLAND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements
Differences according to: EN 60950-1:2006/A11:2009/A1:2010
Attachment Form No.: FI_ND_IEC60950_1B Attachment Originator: SGS Fimko Ltd Master Attachment: Date (2010-04)
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	National Differences		P
General	See also Group Differences (EN 60950-1:2006/A11/A1)		P
1.5.7.1	In Finland resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	No such components	P
1.5.9.4	In Finland , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	In Finland , CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in in Finland shall be as follows: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"		N/A
2.3.2	In Finland , there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits	N/A
2.10.5.13	In Finland , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits	N/A

IEC 60950-1:2005+A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	In Finland, TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that - is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and - has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and - is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A
6.1.2.1 (A1:2010)	In Finland, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. Alternatively for components, there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.	No TNV circuits	N/A

IEC 60950-1:2005+A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14:2005 which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14:2005; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14:2005, in the sequence of tests as described in EN 60384-14:2005.		N/A
6.1.2.2	In Finland, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.	No TNV circuits	N/A
7.2	In Finland, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A

IEC 60950-1:2005+A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 (AUSTRALIA/NEW ZEALAND) NATIONAL DIFFERENCES (Information technology equipment-safety)			
Differences according to: AS/NZS 60950.1:2015			
Attachment Form No.: AU_NZ_ND_IEC60950_1F			
Attachment Originator: JAS-ANZ			
Master Attachment: 2017-06			
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	National Differences		—
Appendix ZZ	Variations to IEC 60950-1, Ed 2.2 (2013) for Australia and New Zealand		—
1.2	DEFINITIONS		—
	After definition 'PERSON, SERVICE', insert the following new definition: POTENTIAL IGNITION SOURCE.....1.2.12.201	Inserted	P
1.5	COMPONENTS		—
1.5.1	1. First paragraph, insert the following text after the words 'IEC component standard: or the relevant Australian/New Zealand Standard 2. In the Note, insert the following text after the word standard: or the relevant Australian/New Zealand Standard 1. Second paragraph, delete the words 'without further evaluation'	Inserted	P
1.5.2	1. First paragraph, insert the following text after the word 'standard' or an Australian/New Zealand Standard 2. First paragraph, second dash item, second line, insert the following text after the word 'standard' or an Australian/New Zealand Standard 3. First paragraph, second dash item, last line, insert the following text after the word 'standard': or an Australian/New Zealand Standard	Inserted	P
1.7	MARKINGS AND INSTRUCTIONS		—

IEC 60950-1:2005+A1:2009																
Clause	Requirement + Test	Result - Remark	Verdict													
1.7.1.3	<i>Delete</i> existing text and <i>replace</i> with the following: Graphical symbols placed on the equipment as a requirement of this standard, shall be in accordance with IEC 60417 or ISO 3864-2 or ISO 7000, if available. In the absence of suitable symbols, the manufacturer may design specific graphical symbols. Symbols as required by this standard placed on the equipment shall be explained in the user manual	Deleted	P													
2.9	ELECTRICAL INSULATION		—													
2.9.2	Variation Second paragraph, <i>delete</i> the word ‘designated’	Deleted	P													
3.2.5	POWER SUPPLY CORDS		—													
Table 3B	Variation 1. <i>Delete</i> the first four rows and replace with the following: <table border="1"><tr><td>Over 0.2 up to and including 3</td><td>0.5^a</td><td>18 [0.8]</td></tr><tr><td>Over 3 up to and including 7.5</td><td>0.75</td><td>16 [1.3]</td></tr><tr><td>Over 7.5 up to including 10</td><td>(0.75)^b 1.00</td><td>16 [1.3]</td></tr><tr><td>Over 10 up to including 16</td><td>(1.0)^c 1.5</td><td>14 [2]</td></tr></table>	Over 0.2 up to and including 3	0.5 ^a	18 [0.8]	Over 3 up to and including 7.5	0.75	16 [1.3]	Over 7.5 up to including 10	(0.75) ^b 1.00	16 [1.3]	Over 10 up to including 16	(1.0) ^c 1.5	14 [2]	Deleted	N/A	
Over 0.2 up to and including 3	0.5 ^a	18 [0.8]														
Over 3 up to and including 7.5	0.75	16 [1.3]														
Over 7.5 up to including 10	(0.75) ^b 1.00	16 [1.3]														
Over 10 up to including 16	(1.0) ^c 1.5	14 [2]														
	1. <i>Delete</i> NOTE 1 and renumber existing NOTE 2 as ‘NOTE’		N/A													
	1. <i>Delete</i> Footnote ^a and replace with the following: ^a This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the to the plug does not exceed 2 m (0,5 mm2 three-core supply flexible cords are not permitted; see AS/NZS 3191)		N/A													
4.3	DESIGN AND CONSTRUCTION		—													
4.3.6	Variation <i>Delete</i> the third paragraph and <i>replace</i> with the following:	Deleted	N/A													
	<i>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets</i>	Shall be provided to evaluation when submitted to national approval.	N/A													

IEC 60950-1:2005+A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.8	Addition Eighth paragraph, <i>insert</i> the following new note after the first dash item:		N/A
	NOTE 6.201 In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A
4.3.13.5.1	Variation <i>Delete</i> the first paragraph and <i>replace</i> with the following: Except as permitted below, equipment shall be classified and labelled according to IEC 60825-1 or AS/NZS 60825.1, IEC 60825-2 or AS/NZS 60825.2 and IEC 60825-12, as applicable	Deleted and replaced.	N/A
	Third paragraph, first sentence, after 'IEC 60825-1', <i>insert</i> the following text: or AS/NZS 60825.1		N/A
	Fourth paragraph, after 'IEC 60825-1', <i>insert</i> the following text: or AS/NZS 60825.1		N/A
4.7	RESISTANCE TO FIRE		—
4.7	Addition At the end of Clause 4.7, <i>insert</i> the following text: For alternate tests refer to Clause 4.7.201	Added	N/A
6	CONNECTION TO TELECOMMUNICATIONS NETWORKS		—
6.2.2	Variation For Australia only, <i>delete</i> the first paragraph and Note, and <i>replace</i> with the following: In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2	No TNV circuits	N/A

IEC 60950-1:2005+A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.1	Variation For Australia only, <i>delete</i> the first paragraph including the Notes, and <i>replace</i> with the following: In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator Reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, U_c, is: (i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and (i) For 6.2.1 b) and 6.2.1 c): 1.5kV	No TNV circuits	N/A
	NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines		N/A
	NOTE 202 The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages		N/A
6.2.2.2	Variation For Australia only, delete the second paragraph including the Note, and replace with the following: In Australia only, the a.c. test voltage is (i) for 6.2.1 a): 3kV; and (i) for 6.2.1b) and 6.2.1c): 1.5kV		N/A
	NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.		N/A
	NOTE 202 The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
7	CONNECTION TO CABLE DISTRIBUTION NETWORK		—
7.3	Addition <i>Add</i> the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes	Added. No cable distribution system.	N/A
Annex P	Addition <i>Add</i> the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets		N/A

IEC 60950-1:2005+A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict
	Special national conditions (if any)		—
1.2.12	FLAMMABILITY		—
1.2.12.15	Addition After Clause 1.2.12.15, <i>insert</i> the following new clause:	Added	N/A
1.2.12.201	POTENTIAL IGNITION SOURCE Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA		N/A
	Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS		N/A
	NOTE 1 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE		N/A
	NOTE 2 This definition is from AS/NZS 60065:2012, Clause 2.8.11.		N/A
4	PHYSICAL REQUIREMENTS		—
4.1	Addition After Clause 4.1, <i>insert</i> new Clause 4.1.201 as follows:	Added	N/A
4.1.201	Display devices used for television purposes Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065	Not display devices	N/A
4.3	DESIGN AND CONSTRUCTION		—
4.3.8	Addition After Clause 4.3.8, <i>add</i> the following new clause as follows		N/A
4.3.8.201	Products containing coin/button cell batteries and batteries designated R1 The requirements of AS/NZS 60065:2012 Amendment 1:2015, Clause 14.10.201 apply for this Clause.	No coin/button cell batteries	N/A
4.7	RESISTANCE TO FIRE		—

IEC 60950-1:2005+A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.6	Addition After Clause 4.7.3.6, <i>add</i> new clauses as follows:	Added	N/A
4.7.201	Resistance to fire—Alternative tests		—
4.7.201.1	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following: a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length.	Added. All materials have suitable flame class.	N/A
	b) The following parts which would contribute negligible fuel to a fire: – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1,750 mm ³ , integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10	See above	N/A
	NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another	See above	N/A
	<i>Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5</i>	See above	N/A
	<i>For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5</i>	See above	N/A
	The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring		N/A

IEC 60950-1:2005+A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201.2	Testing of non-metallic materials Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.	All materials have suitable flame class.	N/A
4.7.201.3	Testing of insulating materials Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE Contacts in components such as switch contacts are considered to be connections. For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:	All materials have suitable class.	N/A

IEC 60950-1:2005+A1:2009				
Clause	Requirement + Test		Result - Remark	Verdict
	Clause of AS/NZS 60695.11.5	Change	All materials have suitable flame class.	N/A
	9 Test procedure			
	9.2 Application of Needle-flame	<i>Delete</i> the first and second paragraphs and <i>replace</i> with the following: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s ± 1 s		
	9.3 Number of test specimens	<i>Delete</i> existing text and <i>replace</i> with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.		
	11 Evaluation of test results	<i>Delete</i> existing text and <i>replace</i> with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15s		
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part		See above	N/A

IEC 60950-1:2005+A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201.4	Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3 by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.	All materials have suitable flame class.	N/A
	NOTE 1 If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.	See above	N/A
	NOTE 2 If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing	See above	N/A
	NOTE 3 Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.	See above	N/A
4.7.201.5	Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE.	All materials have suitable flame class.	N/A

IEC 60950-1:2005+A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict
	The test is not carried out if the – Printed board does not carry any POTENTIAL IGNITION SOURCE; – Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely <i>Compliance shall be determined using the smallest thickness of the material.</i>	All materials have suitable flame class.	N/A
	NOTE Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 m when the circuit supplied is disconnected.	See above	N/A

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 ISRAEL NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to: SI 60950 Part 1			

1.1.1	Replace the the text of Note 3 as follows: The requirements of Israel Standard SI 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment.	Replaced	N/A
1.6	The clause is applicable with the following addition:		N/A
1.6.1	Add following note: In Israel, this clause is applicable subject to the Electricity Law, 1954, its regulations and revisions.	Added	N/A
1.7	The clause is applicable with the following additions: Subclause 1.7.201 shall be added at the beginning of the clause as follows:	Added	P
1.7.201	Marking in the Hebrew language. The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983. In addition to the marking required by clause 1.7.1, the following details shall be marked in the Hebrew language. The details shall be marked on the apparatus or on its package, or on a label properly attached to the apparatus or on the package, by bonding or sewing, in a manner that the label cannot be easily removed. 1. Name of the apparatus and its commercial designation; 2. Manufacturer's name and address. If the apparatus is imported, the importer's name and address; 3. Manufacturer's registered trademark, if any; 4. Name of the model and serial number, if any; 5. Country of manufacture.	Overall acceptance has to be evaluated during the national approval process.	N/A
1.7.2.1	The following shall be added to the clause: All the instructions and warnings related to safety shall also be written in the Hebrew language.	Overall acceptance has to be evaluated during the national approval process.	N/A
2	The clause is applicable with the following additions:	Added	P

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.4	The following shall be added at the beginning of the clause: In Israel, according to the Electricity Law, 1954, and the Electricity Regulations (Earthing and means of protection against electricity of voltages up to 1,000V) 1991, seven means of protection against electrocution are permitted, as follows: 1) TN-S - Network system earthing; TN-C-S - Network system earthing; 2) TT - Network system earthing; 3) IT - Network Insulation Terre; 4) Isolated transformer; 5) Safety extra low voltage (SELV or ELV); 6) Residual current circuit breaker (30 mA = I_{Δn}); 7) Reinforced insulation; Double insulation (class II)	Added	P
2.201	Prevention of electromagnetic interference - Prior to carrying out the tests in accordance with the clauses of this Standard, the compliance of the apparatus with the relevant requirements specified in the appropriate part of the Standard series, SI 961, shall be checked. The apparatus shall meet the requirements in the appropriate part of the Standard series, SI 961. - If there are components in the apparatus for the prevention of electromagnetic interference, these components shall not reduce the safety level of the apparatus as required by this Standard.	Overall acceptance has to be evaluated during the national approval process.	N/A
3	The clause is applicable with the following additions:	Added	N/A
3.2.1.1	Connection to an a.c. mains supply After the note, the following note shall be added: Note: In Israel, the feed plug shall comply with the requirements of Israel Standard SI 32 Part 1.1.	Overall acceptance has to be evaluated during the national approval process.	N/A
3.2.1.2	Connection to a d.c. mains supply At the end of the first paragraph, the following note shall be added: Note: At the time of issue of this Standard, there is no Israel Standard for connection accessories to d.c.		N/A
Annex P	Normative references (List of relevant Israel Standards that have been inserted in place of some of the International Standards)		P

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 CHINESE NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to: GB4943.1-2011			

1.1.2	GB 4943.1-2011 applies to equipment for use at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates. Amend the third dashed paragraph of 1.1.2 as: ——equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;	Up to 5000m.	P
1.4.5	After the third paragraph, add a paragraph: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10%, -10% unless a wider tolerance is declared by the manufacturer. The first dash paragraph "-the RATED VOLTAGE is 230V single -phase or 400V three-phase, in which case the tolerance shall be taken as +10% and -10%" of IEC 60950-1:2005 is deleted in GB 4943.1-2011		P
1.4.12.1	Tma in clause 1.4.12.1 amended as: Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 35°C, whichever is greater. Add note 1: For equipment not to be operated at tropical climatic conditions, Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater. Add note 2: For equipment is to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration.		P
1.5. 2	Add a note behind the first break off section in Clause 1.5.2: A component used shall comply with related requirements corresponding altitude of 5000m.	Up to 5000m.	P
1.7	Add one paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.	Should be considered during national approval.	N/A

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	Based on the AC mains supply of China, the RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V (three-phases) when manufactured. And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.		P
1.7.2.1	Add requirements of warning for equipment intended to be used at altitudes not exceeding 2000m or at non-tropical climate regions: For equipment intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used at altitude not exceeding 2000m."  For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used in not-tropical climate regions."  If only the symbol used, the explanation of the symbol shall be contained in the instruction manual. The above statements shall be given in a language acceptable to the regions where the apparatus is intended to be used.	Up to 5000m.	N/A

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	Amended the first paragraph as: Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3. Delete note of Clause 2.7.1.		P
2.9.2	First section of Clause 2.9.2 amended as two sections: Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature $40\pm 2^{\circ}\text{C}$ and a relative humidity of $(93\pm 3)\%$. During this conditioning the component or subassembly is not energized. For equipment not to be operated at tropical climatic conditions, Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of $(93\pm 3)\%$. The temperature of the air, at all places where samples can be located, is maintained within 2°C of any convenient value between 20°C and 30°C such that condensation does not occur. Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot shock, specific requirements are to be considered. Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.	Refer to this report clause 2.9.2	P

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.1	Amend the third paragraph of Clause 2.10.3.1 to be: These requirements apply for equipment to be operated up to 2000 m above sea level. For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of IEC 60664-1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.	Up to 5000m.	P
2.10.3.3& 2.10.3.4	Add "(applicable for altitude up to 2000m)" in header of Table 2K, 2L and 2M.		P
2.10.3.4	Add a new section above Table 2K and in Clause 2.10.3.4: Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1(IEC 60664-1). For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T16935.1.	Up to 5000m.	P
3.2.1.1	Add a paragraph before the last paragraph: Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.	Appliance inlet equipment.	N/A
4.2.8	Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011. Delete note of Clause 4.2.8.	No CRT used.	N/A

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
Annex E	Last section of Annex E amended as: For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35 °C shall be added to the calculated temperature rise. And add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.		N/A
Annex G.6	Change the second section of Clause G.6 to be: For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.	Up to 5000m.	P
Annex BB (informative)	Amended as : The differences between Chinese national standards GB 4943.1-2011 and GB 4943-2001.		P

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DD (normative)	Added annex DD: Instructions for the new safety warning labels. DD.1 Altitude warning label  Meaning of the label: Evaluation for apparatus only based on altitude not exceeding 2000m, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used at altitude above 2000m . DD.2 Climate warning label  Meaning of the label: Evaluation for apparatus only based on temperate climate condition, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used in tropical climate region.	Up to 5000m.	N/A
Annex EE (informative)	Added annex EE: Illustration relative to safety explanation in normative Chinese、Tibetan、Mongolian、Zhuang Language and Uighu.	Should be considered during national approval.	N/A
Other amendment s	In accordance with the relevant CTL decisions and the amendments of IEC 60950-1, the specific requirements or mistakes in IEC standard are corrected or editorially modified in this part, Including clause 1.7, 2.1.1.7, 2.9.2, Table 2H, Figure 2H, F.8, F.9, M.3 and Annex U.		P
Quoting standards and reference documents	The principles of quoting and referring to other standards in Annex P and reference documents of IEC 60950-1 are as follows: If the date of the reference document is given, only that edition applies, excluding any subsequent corrigenda and amendments. However, parties to agreements based on this part are encouraged to investigate the possibility of applying the most recent editions of the reference documents. For undated references, the latest edition of the referenced document applies, including any corrigenda and		P

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
	amendments. For the usage of international standards in Chinese national standards and industry standards is various, in the aim of achieving easy operation and based on the requirements of GB/T 1.1 and GB/T 20000.2, when quoting an entire international standard in the normative quoting files and reference documents of Annex P of this part, the principles of quotation are as follows: - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted; - If the date of the national standard or industry standard is not given, the latest edition of the standard applies; - The national standard or industry standard number, corresponding international standard number and the consistency level code should be identified in parentheses behind the listed national standard or industry standard. When quoting several chapters or clauses of the international standard, the principles of quotation are as follows: - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted. Meanwhile, in order to retain the relevant information on international standards, informative annex CC is increased, which gives the table about the comparison of the normative quoting files and reference documents in IEC 60950-1: 2005 and GB 4943.1-2011.		

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 JAPAN NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to: J60950-1 (H22)			

1.2.4.1	Add the following new notes. Note: Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.	Added. The equipment is “Class II”	N/A
1.2.4.3A	Add the following new clause. 1.2.4.3A CLASS 0I EQUIPMENT Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: - using BASIC INSULATION, and - providing externally an earth terminal or a lead wire for earthing in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation. circuit.	Added. The equipment is “Class II”	N/A
1.3.2	Add the following notes after first paragraph: Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel. Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.	Added.	N/A

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	Replace the first paragraph with the follows: Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component standards in case there is no applicable JIS component standard is available. However, a component that falls within the scope of METI Ministerial ordinance No. 85 is properly used in accordance with its marked ratings, requirements of 1.5.4, 2.8.7 and 3.2.5 apply, and in addition, a cord connector of power supply cord set mating with appliance inlet complying with the standard sheet of IEC 60320-1, shall comply with relevant standard sheet of IEC 60320-1. Replace Note 1 with the following: Note 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.	Added.	P

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.2	Replace first sentence in the first dashed paragraph with the following: - a component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating. Add a note after the first dashed paragraph as follows: Note 1 See 1.7.5A when Type C.14 appliance coupler rated 10 A per IEC 60320-1 is used with an equipment rated not more than 125 V and rated more than 10 A. Replace first sentence in the third dashed paragraph as follows: - where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment.	Added.	P
1.7.1	Replace fifth dashed paragraph with the following: - manufacturer's or responsible company's name or trade-mark or identification mark;	Added. The responsible company's name is list on the marking plate.	P
1.7.5A	Add the following new clause. after 1.7.5 1.7.5A Appliance Coupler If appliance coupler according to IEC60320-1, C.14(rated current: 10A)is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the user instruction. " Use only designated cord set attached in this equipment"	Added.	N/A
1.7.12	Replace first sentence with the following: Instructions and equipment marking related to safety shall be in Japanese..	Replaced. Overall acceptance has to be evaluated during the national approval process.	N/A

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.17A	Add the following new clause. after 1.7.17 1.7.17A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following instruction shall be marked on the visible place of the mains plug or the main body: “Provide an earthing connection” Moreover, for CLASS 0I EQUIPMENT, the following or equivalent instruction shall be indicated on the visible place of the main body or written in the operating instructions: “Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.”	Added. The equipment is “Class II”	N/A
2.6.3.2	Add the following after 1st paragraph. This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.	Added. The equipment is “Class II”	N/A
2.6.4.2	Replace 1st paragraph with the following. Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet.	Added. The equipment is “Class II”	N/A
2.6.5.4	Replace 1st sentence with the following. Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:	Replaced.	P
2.6.5.8A	Add the following new clause. after 2.6.5.8A 2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.	Added. The equipment is “Class II”	N/A

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.3	Add the following after Table 3A: Table 3A applies when cables complying JIS C 3662 or JIS C 3663 are used. In case of other cables, cable entries shall be so designed that a conduit suitable for the cable used can be fitted.	Added.	N/A
3.2.5.1	Add the following to the last of first dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.. Add the following to the last of second dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.. Delete 1) in Table 3B.	Added.	N/A
3.3.4	Add the following note to Table 3D: Note For cables other than those complying with JIS C 3662 or JIS C 3663, terminals shall be suitable for the size of the intended cables.	Added.	N/A
3.3.7	Add the following after the first sentence: This requirement is not applicable to the external earthing terminal of Class 0I equipment.	Added. The equipment is "Class II"	N/A
4.3.4	Add the following after the first sentence: This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.	Added. The equipment is "Class II"	N/A
5.1.3	Add a note after the first paragraph as follows: Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is conducted using the test circuit from IEC 60990, figure 13.	Added. Single phase power distribution system used.	N/A

IEC 60950-1:2001						
Clause	Requirement + Test			Result - Remark	Verdict	
5.1.6	Replace Table 5A. as follows			Replaced.	P	
	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. 1)			Maximum PROTECTIVE CONDUCTOR CURRENT
	ALL equipment	ALL equipment Accessible parts and circuits not connected to protective earth	0,25			-
	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75			-
	MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT		3,5			-
	STATIONARY, PLUGGABLE TYPE A		3,5			-
	ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7		3.5 -			- 5 % of input current
	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0,5			-
	Others		1.0			-
	1) If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.					

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
7.2	Add the following after the paragraph: However, the separation requirements and tests of 6.2.1 a), b) and c) do not apply to a CABLE DISTRIBUTION SYSTEM if all of the following apply: – the circuit under consideration is a TNV-1 CIRCUIT; and – the common or earthed side of the circuit is connected to the screen of the coaxial cable and to all accessible parts and circuits (SELV, accessible metal parts and LIMITED CURRENT CIRCUITS, if any); and – the screen of the coaxial cable is intended to be connected to earth in the building installation.	Added.	N/A
W.1	Replace second and third sentence in the first paragraph with the following: This distinction between earthed and unearthed (floating) circuit is not the same as between CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and CLASS II EQUIPMENT. Floating circuits can exist in CLASS I EQUIPMENT or CLASS 0I EQUIPMENT and earthed circuits in CLASS II EQUIPMENT.	Added.	N/A

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
Annex JA	Add a new annex JA with the following contents. Annex JA (normative) Document shredding machines Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more. JA.1 Markings and instructions The symbol  (JIS S 0101:2000, 6.2.4) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible; - that use by an infants/children may cause a hazard of injury etc.; - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the document-slot; - that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas. JA.2 Inadvertent reactivation Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard. Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1 JA.3 Disconnection from the mains supply Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used.		N/A

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
	If two-position switch, the positions for "ON" and "OFF" shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for "OFF" shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols. Compliance is checked by inspection JA.4 Protection against hazardous moving parts Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements. Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended. Before testing with the test finger, remove the parts detachable without a tool. Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.		N/A

IEC 60950-1:2001											
Clause	Requirement + Test	Result - Remark	Verdict								
	Figure JA.1 Test finger		N/A								
	(Details of the tip of wedge) <table><tr><th>Distance from the tip (mm)</th><th>Thickness of probe (mm)</th></tr><tr><td>0</td><td>2</td></tr><tr><td>12</td><td>4</td></tr><tr><td>180</td><td>24</td></tr></table> Note 1 - The thickness of the probe varies linearly, with slope changes at the respective points shown in the table. Note 2 - The allowable dimensional tolerance of the probe is +/- 0.127 mm. Figure JA.2 Wedge-probe	Distance from the tip (mm)	Thickness of probe (mm)	0	2	12	4	180	24		N/A
Distance from the tip (mm)	Thickness of probe (mm)										
0	2										
12	4										
180	24										

IEC 60950(3rd ed.):1999			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 UKRAINE NATIONAL DIFFERENCES Information technology equipment – Safety –			
Differences according to : DSTU 4113-2001			

1.4.5	In Ukraine the NOMINAL VOLTAGE is 220 V for monophase or 380 V for three-phase supply.	Uinti is rated monophase and is rated for AC 100-240V	P
1.5.8	In Ukraine the components connected between phase and earthing or between phase and neutral terminal shall be calculated for the voltage between phases.	Considered	P
1.7.2	In Ukraine for the APPARATUS of I CLASS the necessity of its obligatory earthing shall be indicated in the manuals.	Uinti is Class II	N/A
2.3.3	In Ukraine the method b) is not used.	Method b) is not used	P
6.2.2	In Ukraine the both tests in 6.2.2.1 and 6.2.2.2 are applied.	No TNV circuits	N/A
6.2.2.1	In Ukraine in 6.2.1 a) is used $U_c \square 3,5$ kV.	No TNV circuits	N/A
6.2.2.2	In Ukraine in 6.2.1 a) is used 3,0 kV for telephones and headsets and 2,5 kV $\square$ for other equipment and in 6.2.1 b) and c) is used 1,5 kV.	No TNV circuits	N/A
Annex N	In Ukraine in 6.2.1 a) is used 3,0 kV for telephones and headsets and 2,5 kV $\square$ for other equipment, and in 6.2.1 b) and c) is used 1,5 kV.	No TNV circuits	N/A

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz



KPL Series front –top view



KPL Series rear-bottom view

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



KPL: For PCB with fuse: FUSE1



KPL: For PCB with fuse: FUSE1

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



KPL: For PCB with fuse: FUSE1



KPL: For PCB with fuse: FUSE1

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



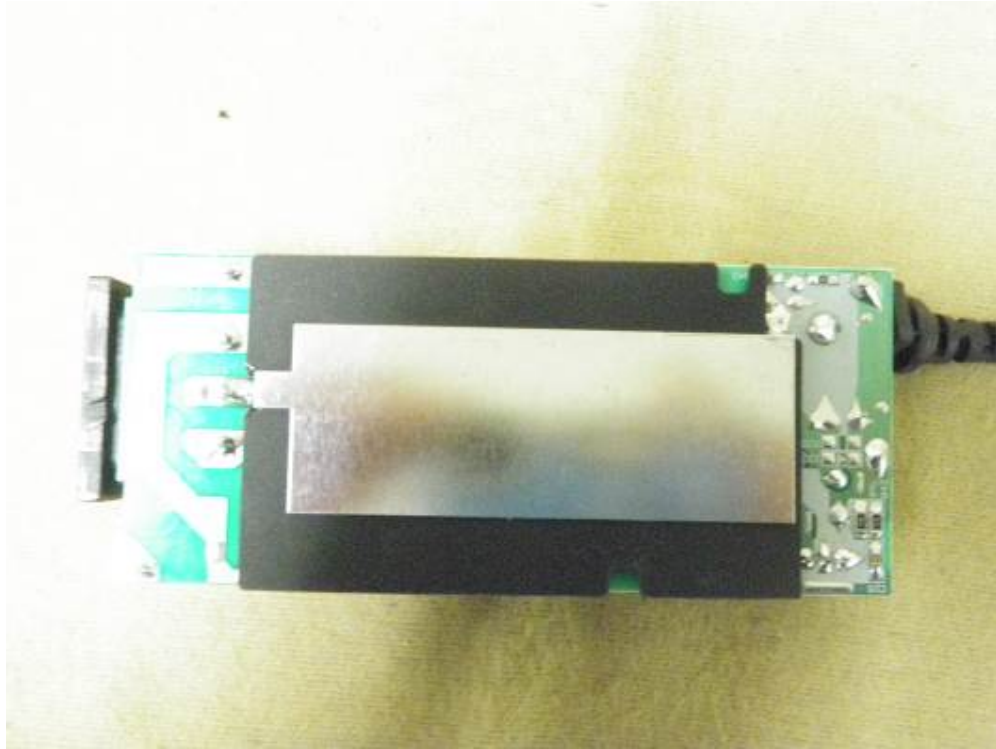
KPL: For PCB with fuse: FUSE1



KPL: For PCB with fuse: FUSE1

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



KPL: For PCB with fuse: FUSE1



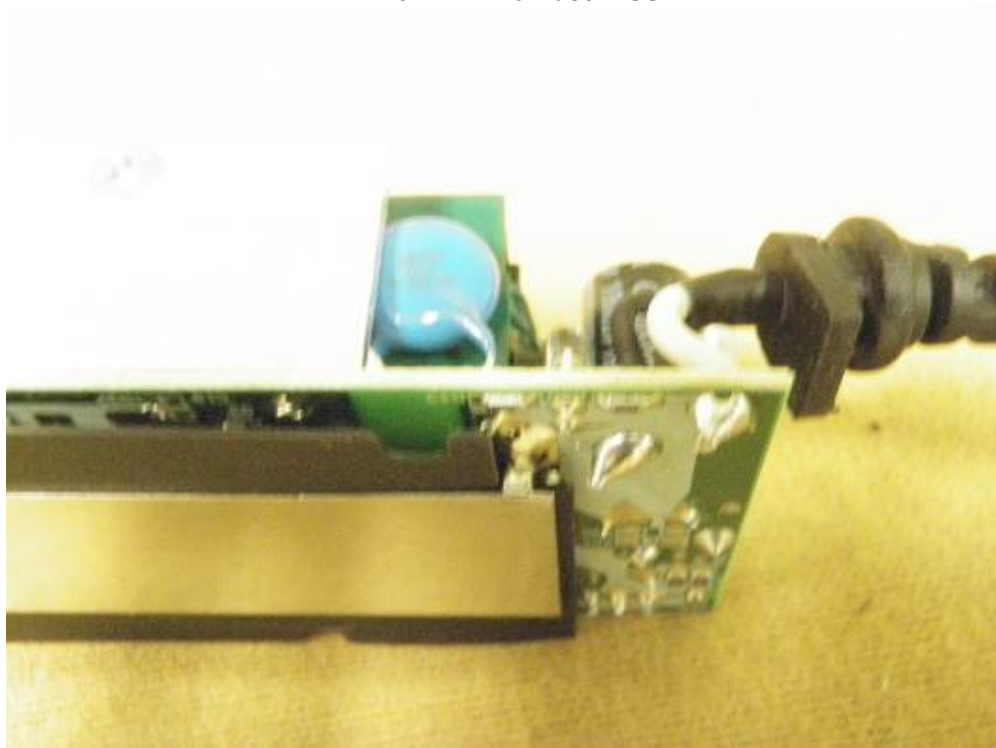
KPL: For PCB with fuse: FUSE1

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



KPL: For PCB with fuse: FUSE1



KPL: For PCB with fuse: FUSE1

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



KPL: For PCB with fuses: F1 and F2



KPL: For PCB with fuses: F1 and F2

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



KPL: For PCB with fuses: F1 and F2



KPL: For PCB with fuses: F1 and F2

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



KPL: For PCB with fuses: F1 and F2



KPL: For PCB with fuses: F1 and F2

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



KPL: For PCB with fuses: F1 and F2



KPL: For PCB with fuses: F1 and F2

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



KPL: For PCB with fuses: F1 and F2



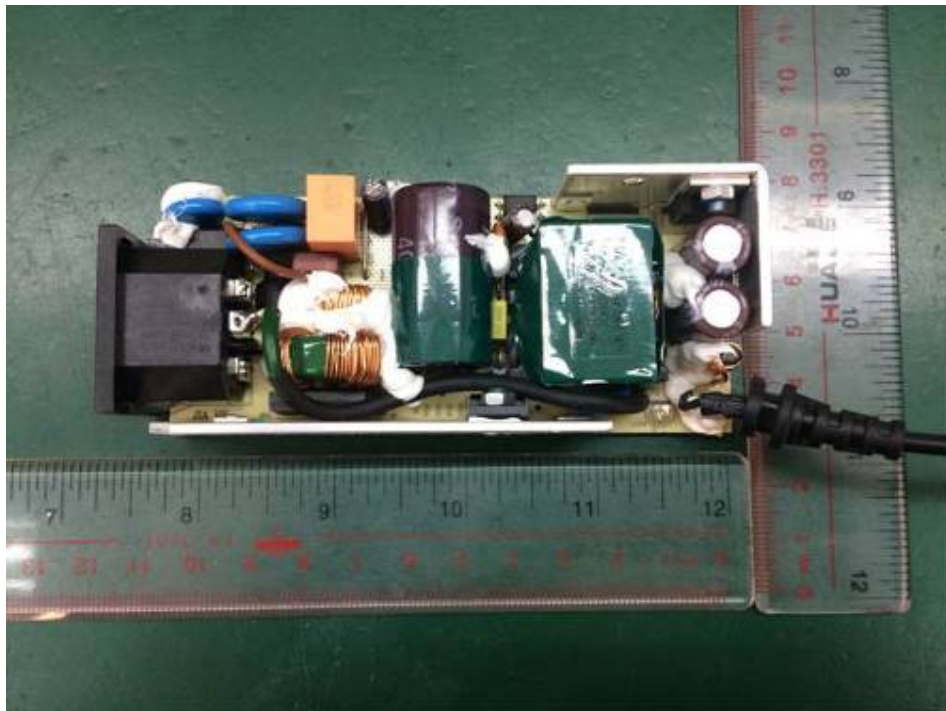
KPL: For PCB with fuses: F1 and F2

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



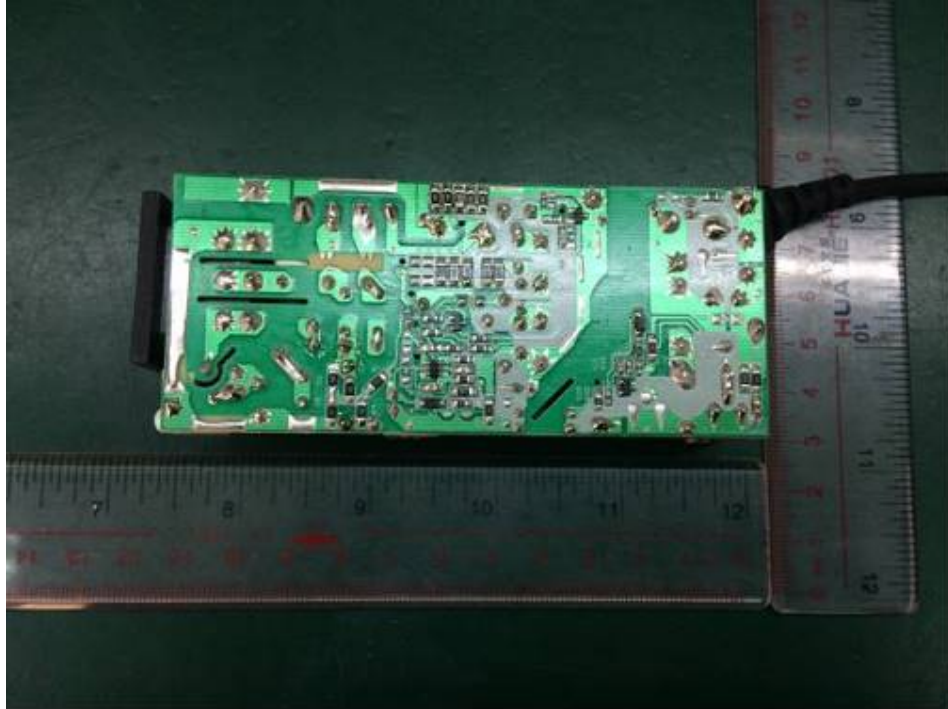
KPL: For PCB with fuses: F1 and F2 (with TVS2, TVS3, TVS4)



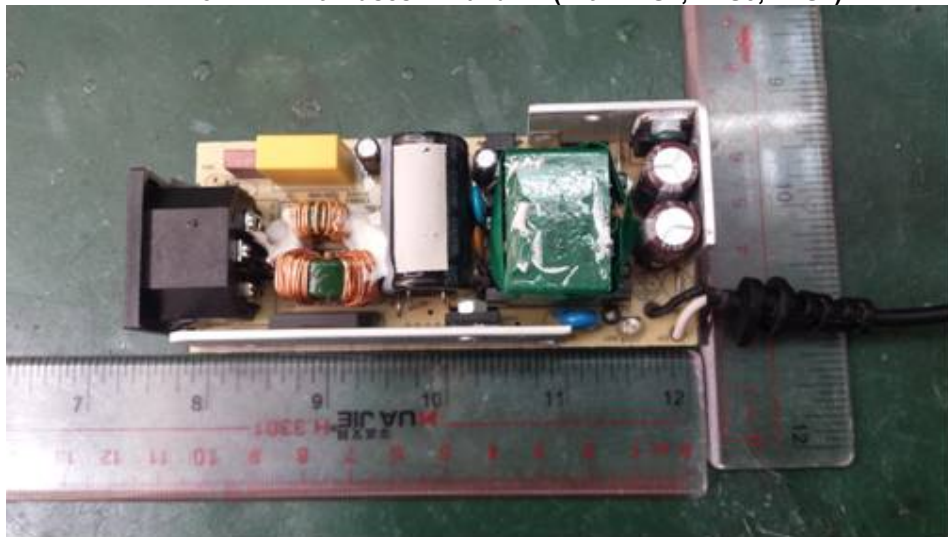
KPL: For PCB with fuses: F1 and F2 (with TVS2, TVS3, TVS4)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



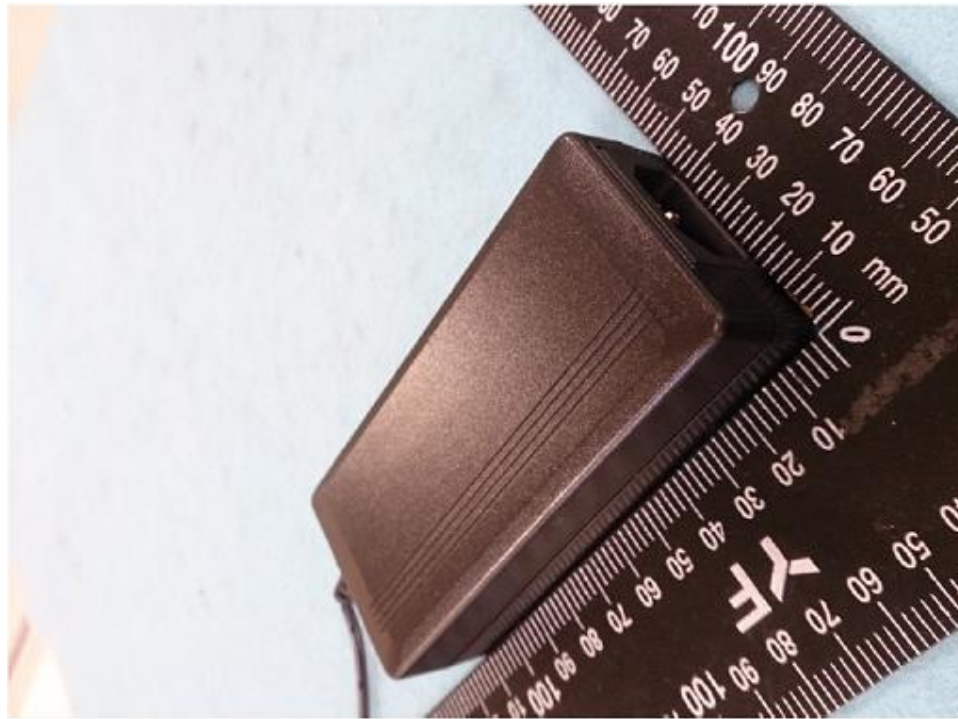
KPL: For PCB with fuses: F1 and F2 (with TVS2, TVS3, TVS4)



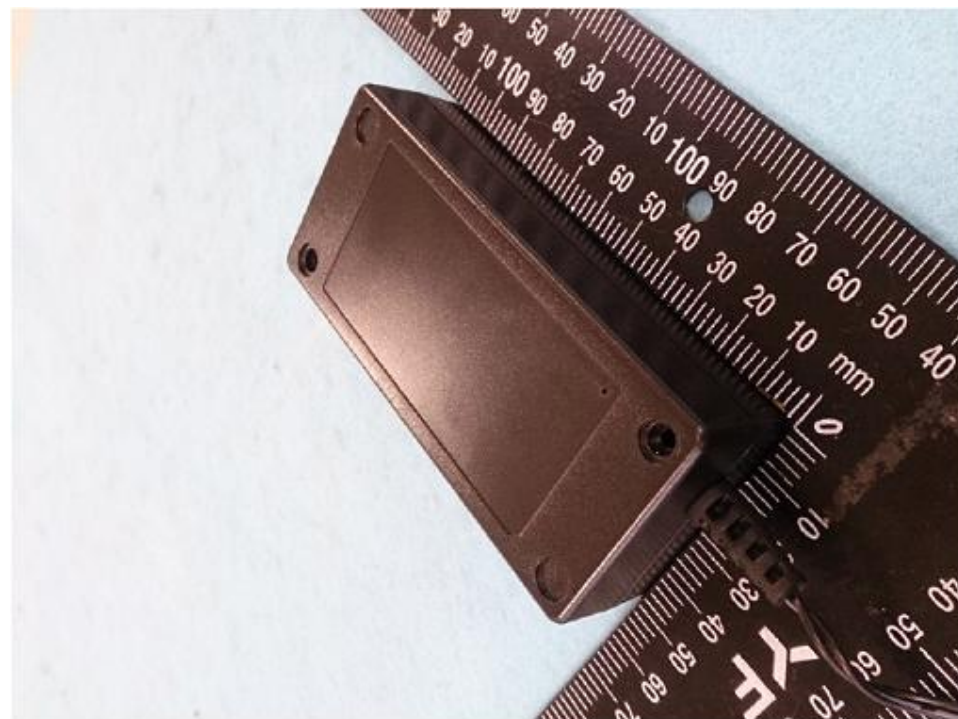
KPL: For PCB with fuses: F1 and F2 (without green/yellow wire)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



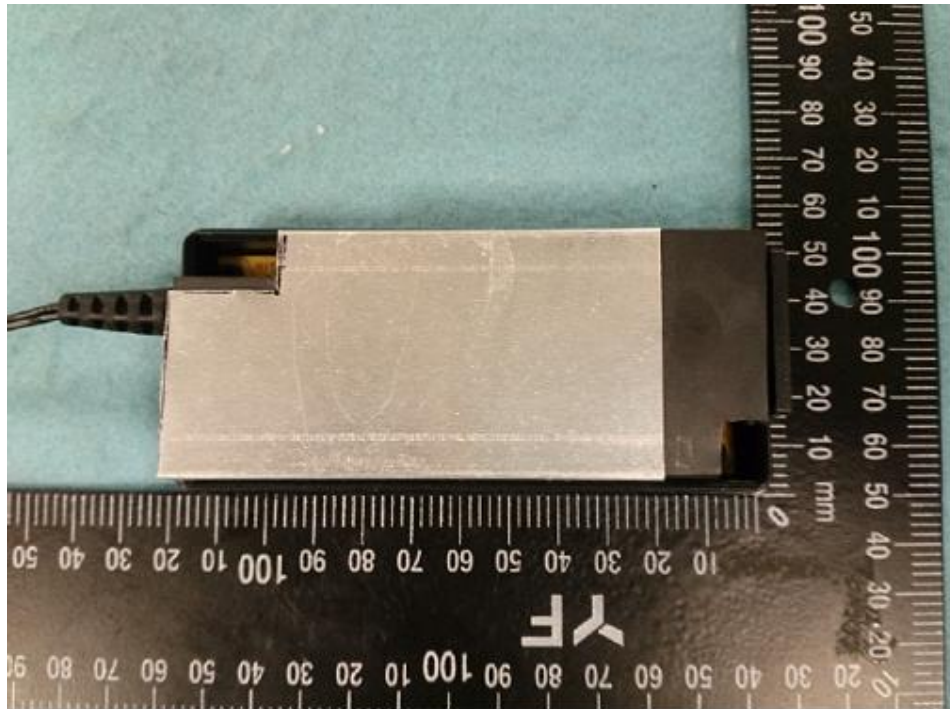
2ABF and 2ACL (without LED)



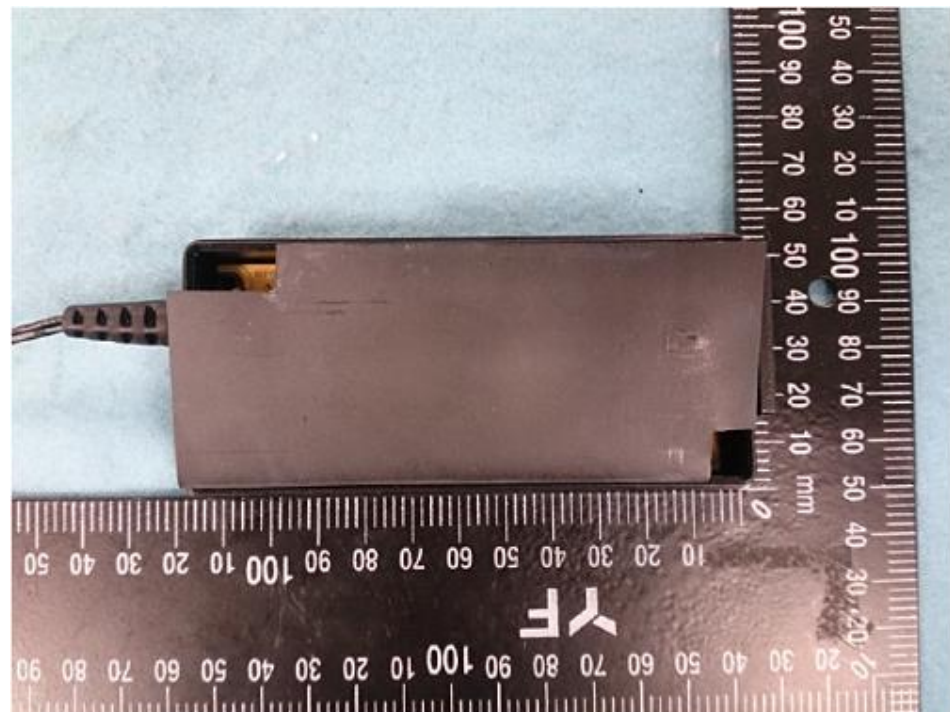
2ABF and 2ACL

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



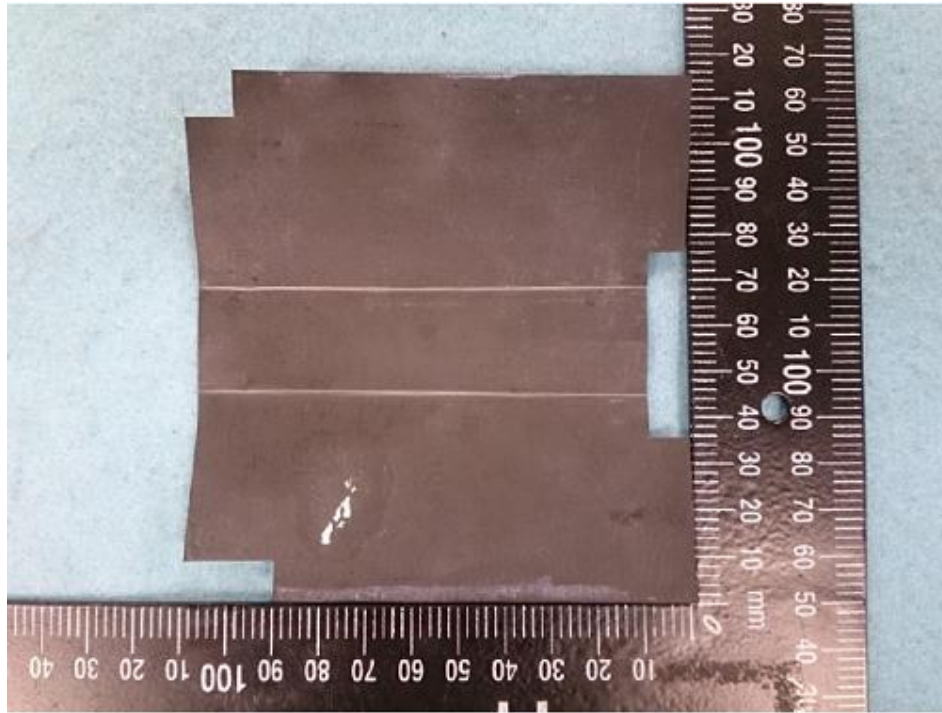
2ABF and 2ACL (except Y=B)



2ABF and 2ACL (except Y=B)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



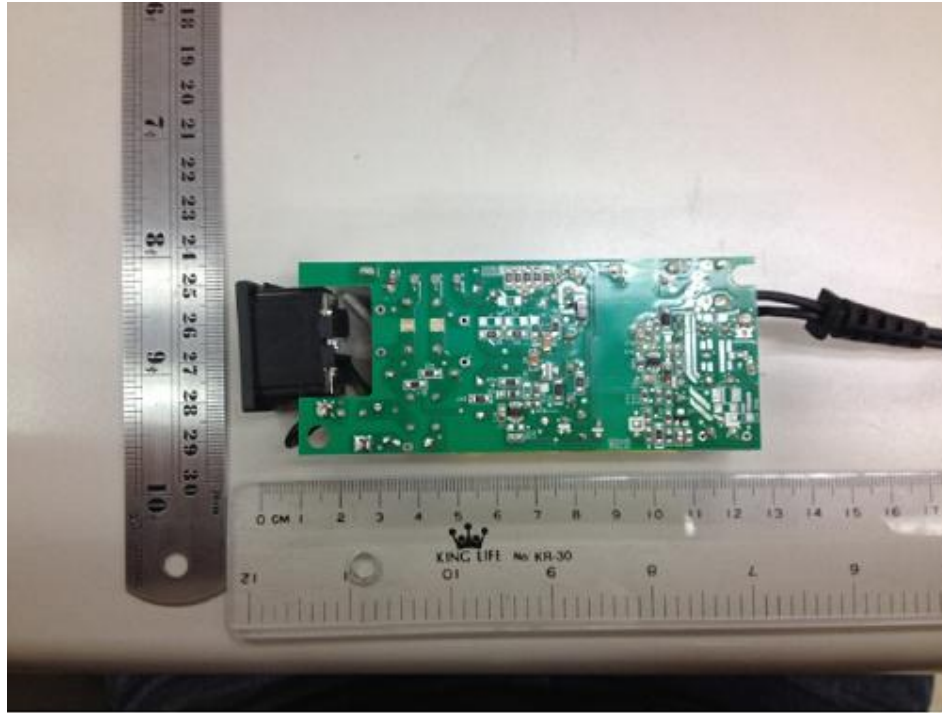
2ABF and 2ACL (except Y=B)



2ABF and 2ACL

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



2ABF and 2ACL



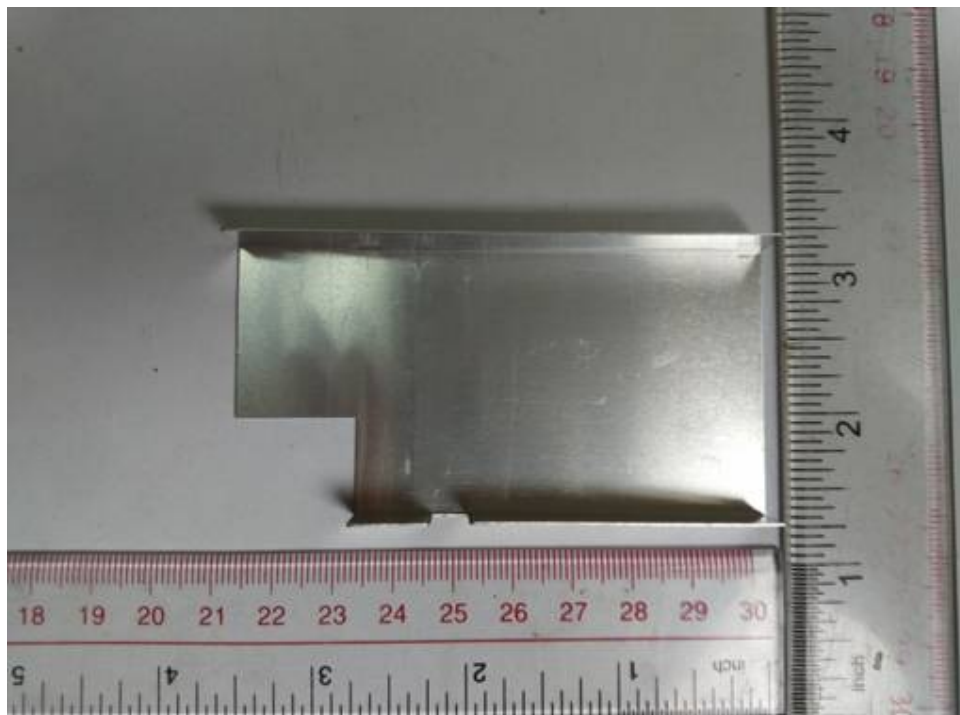
2ABF and 2ACL with LED

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



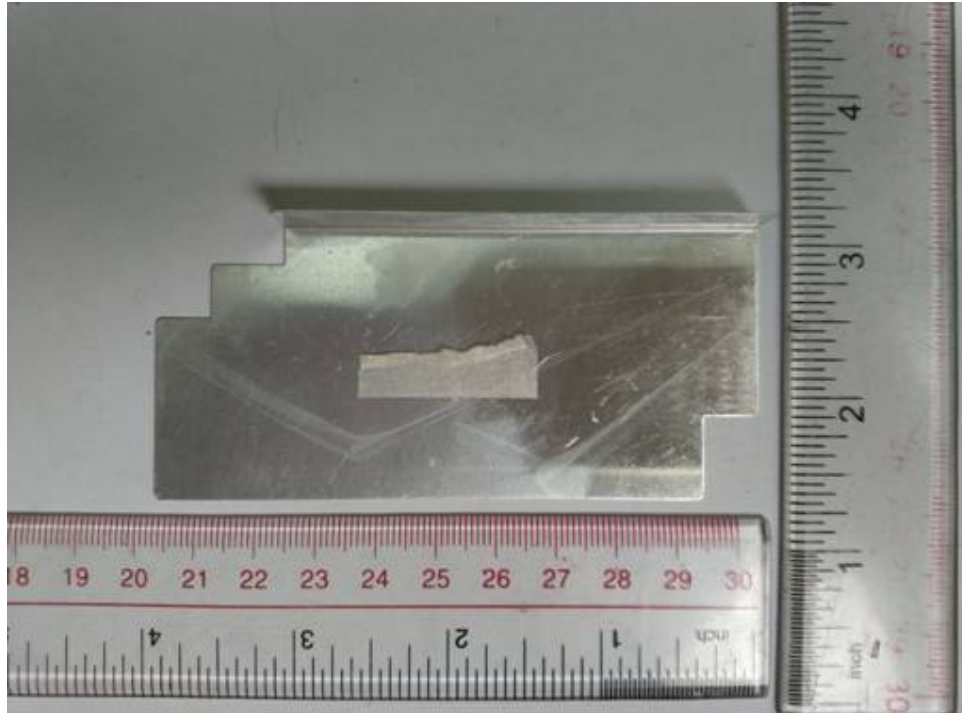
2ABF and 2ACL (except Y=B)



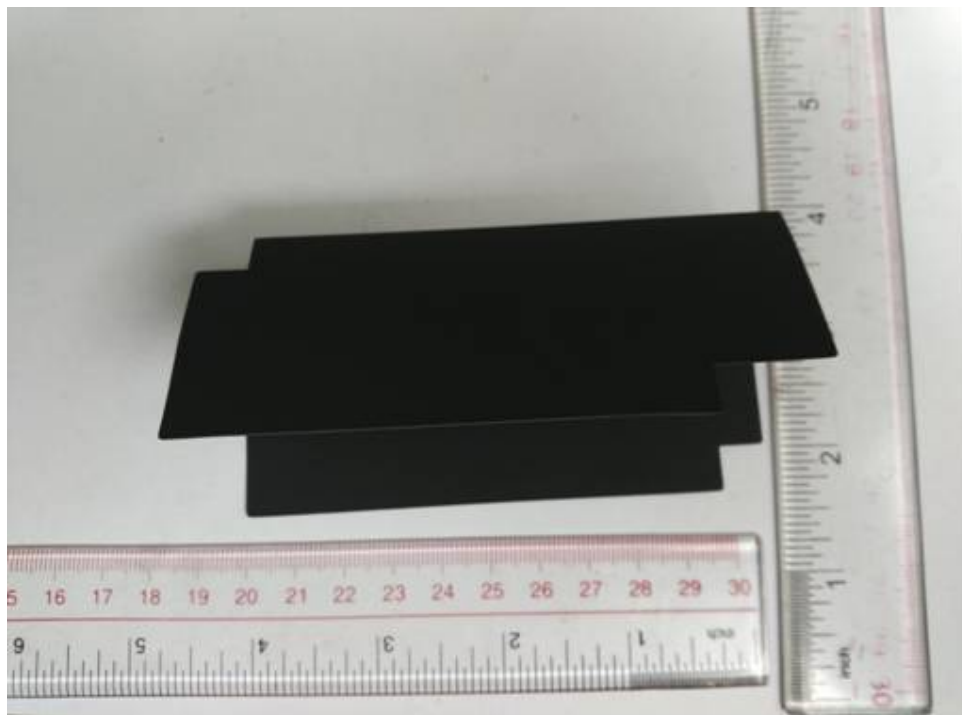
2ABF and 2ACL Top HS (except Y=B)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



2ABF and 2ACL Bottom HS (except Y=B)



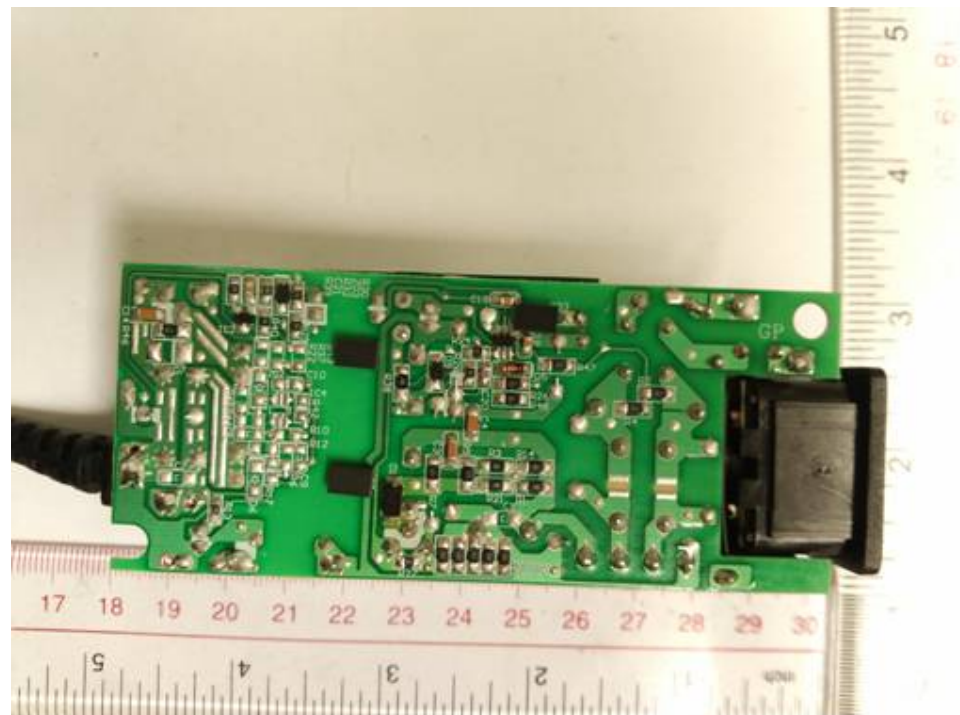
2ABF and 2ACL Mylar (except Y=B)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



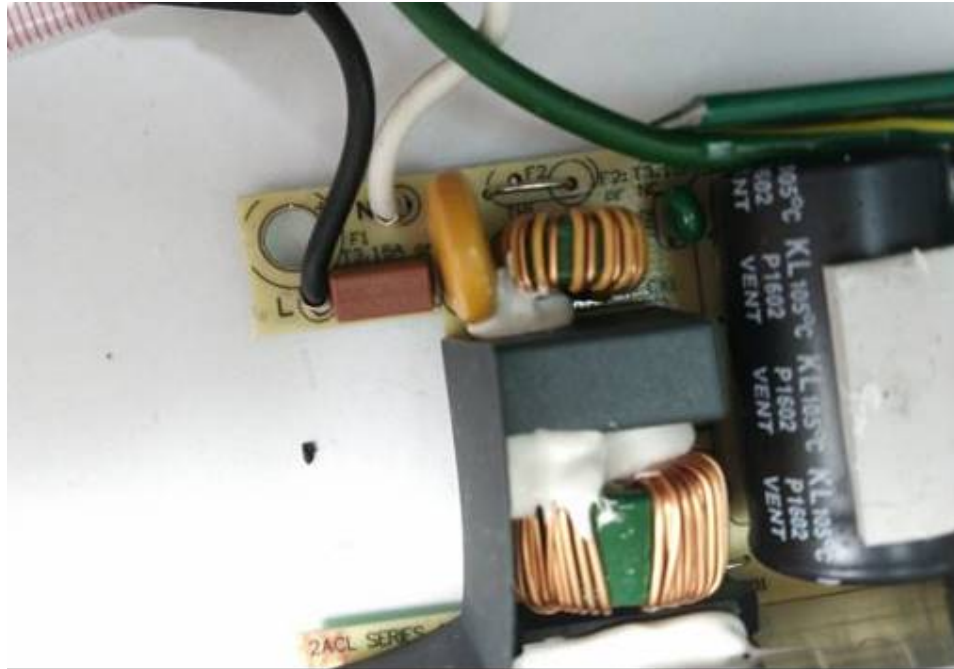
2ABF and 2ACL



2ABF and 2ACL

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



2ABF and 2ACL



Alternative HS2 (L=20mm) for 2ABF and 2ACL

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



KPL PCB with fuse: F1 and F2 (CY1 and CY2)



GTRxxxYzzzzz

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



GTRxxxYzzzzz



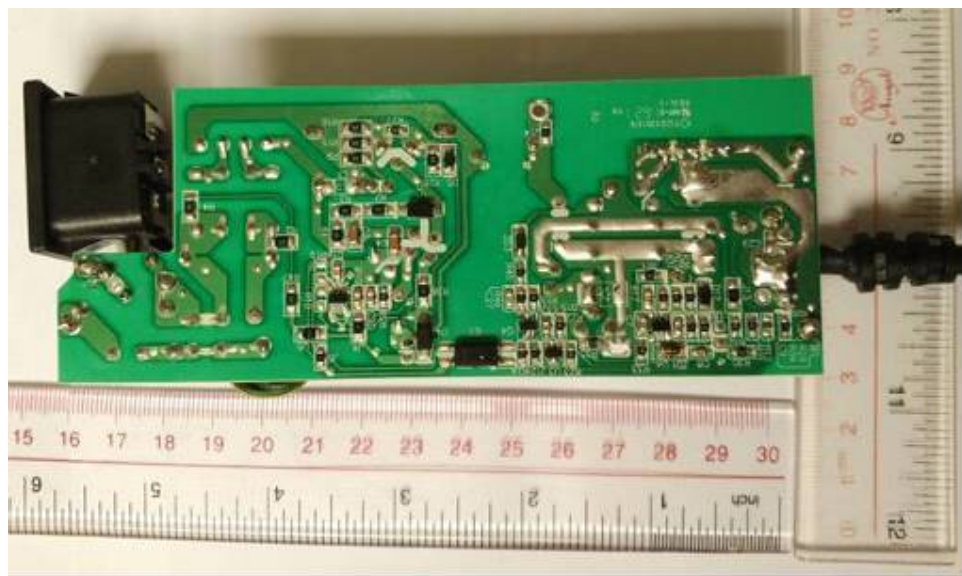
GTRxxxYzzzzz

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



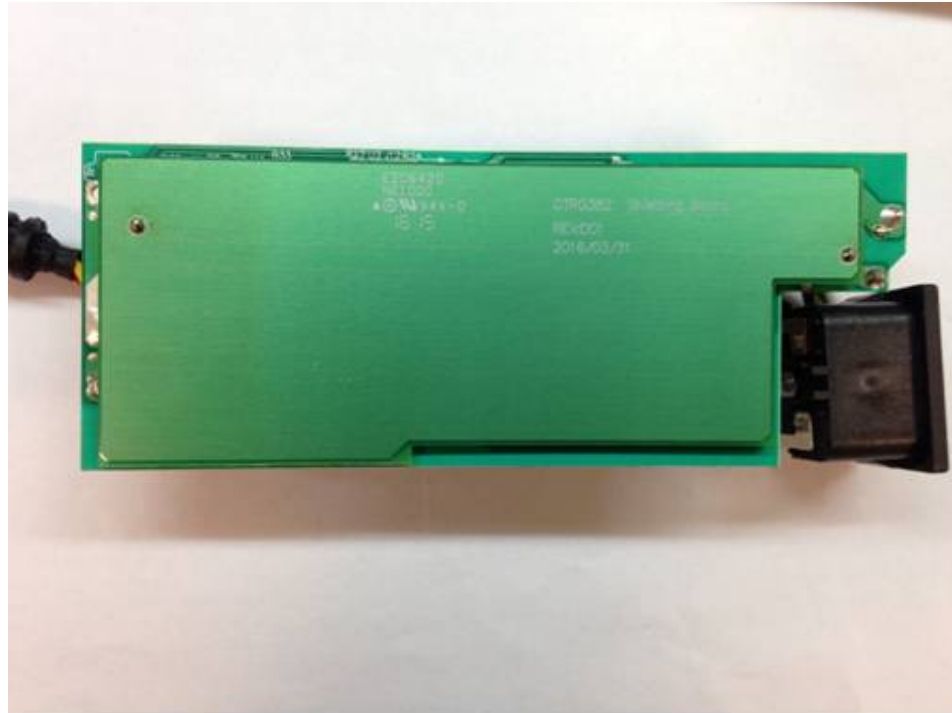
GTRxxxYzzzzz



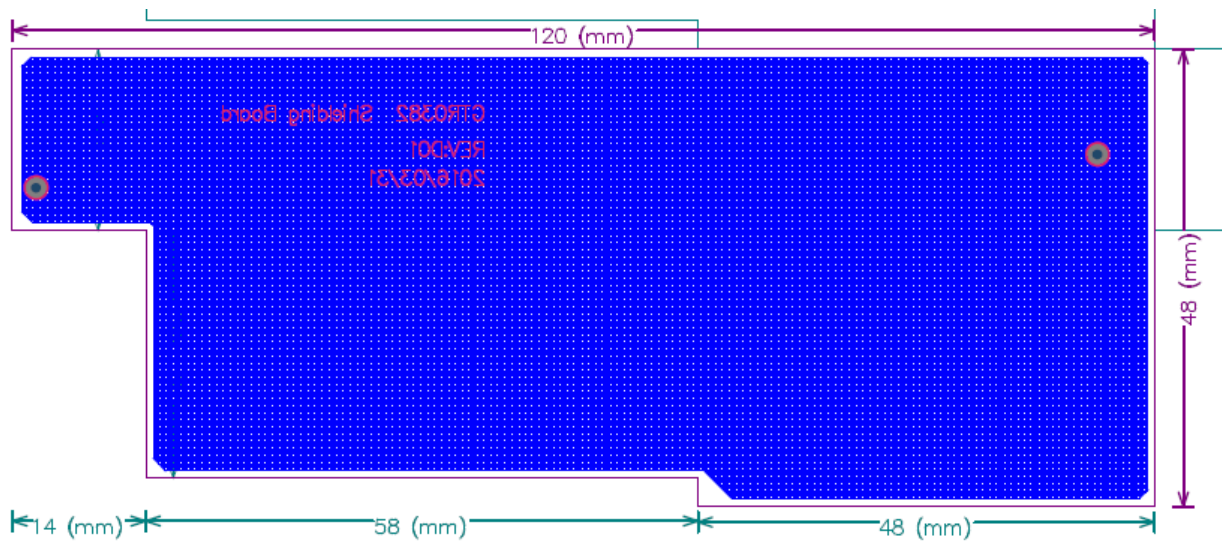
GTRxxxYzzzzz

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



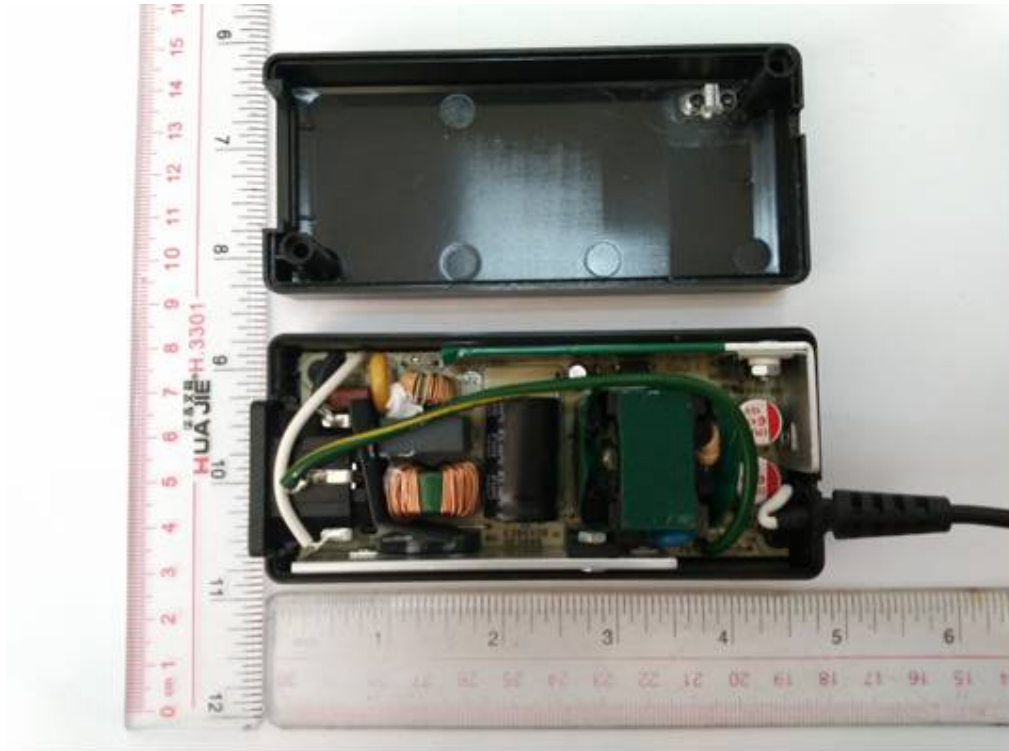
GTRxxxYzzzzz



**GTRxxxYzzzzz
(Shielding PCB)**

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



2ACL, Y=B



2ACL (except Y=B) Alternative PCB with R2A, R4A, F3, L1

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

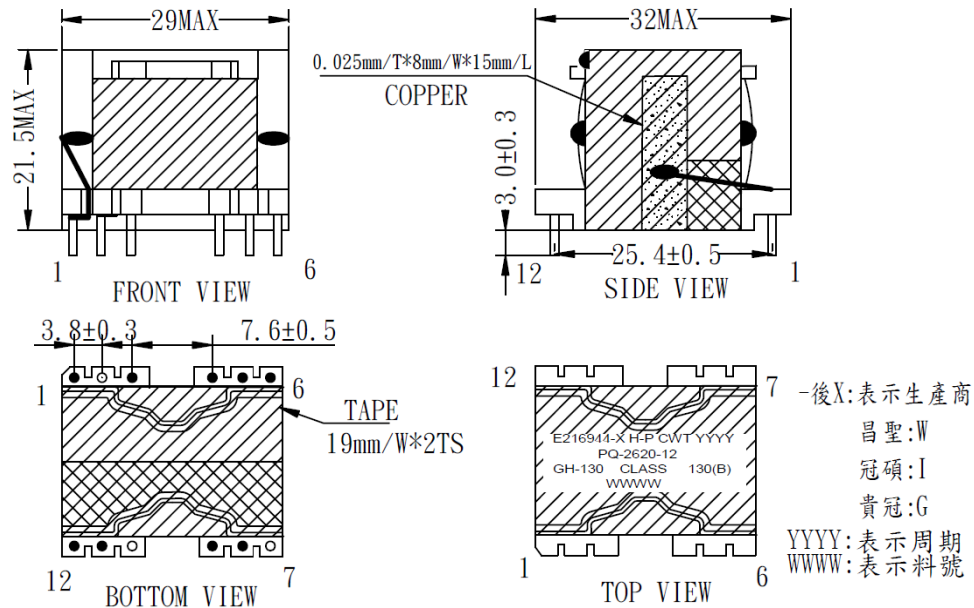
SHEET: 1 OF 4

CUSTOMER: 冠碩 MODEL: PQ-2620-12

PART NO: G09-PQ26203-M100 OUR P/N: _____

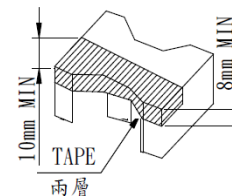
REVISION: A ISSUE DATE: 2011-02-14

1. MECHANICAL DIMENSIONS: (UNIT :mm)



NOTE:

- PIN2, 7, 10 NO, PIN5 CUT OFF 1/2.
- 底部磁芯加工PIN7-12(如圖所示).
- 所有出入線需加TFL套管.
- 側面貼自粘銅箔0.025mm/T*8mm/W*15mm/L, 引線為Φ0.3, 加TFL接於PIN1.
- 研磨磁芯置於變壓器頂部, CORE TAPE:19mm/W*2TS(切口在側面).
- 磁芯與磁芯結合處及磁芯與BOBBIN結合處, 共點膠五點固定(如圖所示).
- 標籤貼於頂部, 字腳朝向PIN1-6側(如圖所示).



APPROVED BY	CHECKED BY	DRAWING BY
林宗財	丁俊德	張娟溪

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(O/P 12-16V) (KPL PCB with FUSE1)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

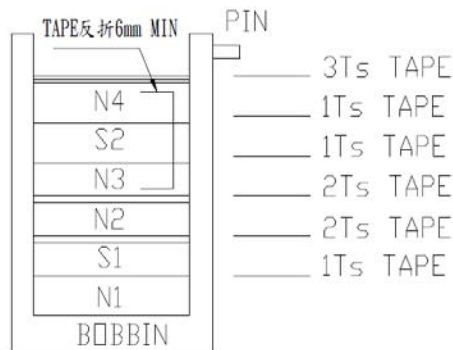
SHEET: 2 OF 4

CUSTOMER: 冠碩 MODEL: PQ-2620-12

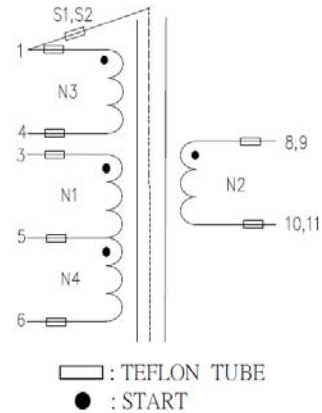
PART NO: G09-PQ26203-M100 OUR P/N: _____

REVISION: A ISSUE DATE: 2011-02-14

2. CONSTRUCTIONS:



3. SCHEMATIC:



4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	2UEW $\Phi 0.4\text{mm} \times 2\text{P}$	3	5	18TS	1TS	V	V	
S1	0.025mm/T*8mm/W	1	-	1TS	2TS	V		
N2	TRW(B) $\Phi 0.8\text{mm} \times 2\text{P}$	8,9	11,12	4TS	2TS	V	V	
N3	2UEW $\Phi 0.16\text{mm} \times 2\text{P}$	1	4	5TS	1TS	V	V	疏繞
S2	0.025mm/T*8mm/W	1	-	1TS	1TS	V		
N4	2UEW $\Phi 0.4\text{mm} \times 2\text{P}$	5	6	18TS	3TS	V	V	

NOTE :

- S1, S2銅箔須背膠, 引線為 $\Phi 0.3\text{mm}$.
- 靠底部繞N3是需貼一塊膠帶, 待N4繞完後反折6mm MIN.

APPROVED BY	CHECKED BY	DRAWING BY
林宗財	丁俊德	張娟溪

(O/P 12-16V) (KPL PCB with FUSE1)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: 冠 碩	MODEL: PQ-2620-12
PART NO: G09-PQ26203-M100	OUR P/N: _____
REVISION: A	ISSUE DATE: 2011-02-14

5. ELECTRICAL CHARACTERISTICS: (AT 20°C 65±5%RH)

(1). INDUCTANCE: AT 1KHz 0.25V
L(3-6): 670uH~730uH

(2). LEAKAGE INDUCTANCE: AT 60KHz 0.25V
LK(3-6): uH MAX (SEC SHORT)

(3). DC TESISTANCE:
DCR(3-6): 195mΩ MAX
DCR(PIN1-CORE): 50kΩ MAX

(4). HI-POT TEST : AC 50Hz OR 60Hz 5mA 3SEC
PRI -- SEC: 3000V
SEC -- CORE: 1500V
PRI -- CORE: 1500V

(5). INSULATION RESISTANCE: DC500V
PRI--SEC: 100M OHMS MIN
SEC--CORE: 100M OHMS MIN
PRE--CORE: 100M OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY
林宗財	丁俊德	張娟溪

(O/P 12-16V) (KPL PCB with FUSE1)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: 冠碩		MODEL: PQ-2620-12		
PART NO: G09-PQ26203-M100		OUR P/N: _____		
REVISION: A		ISSUE DATE: 2011-02-14		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO.,LTD	E59481(S)
2	CORE	M2.3K	HAO BO ELECTRONICSSCIENE&TECHNILOGY CO.,LTD	-
		SSP-44	SHANGPENG	-
		PF-2L	CWGC	-
		3F3	FEROCXCUBE	-
		JF2	SPINEL	-
3	MAGNET WIRE	DD-NYU Polyurethane MW75 130°C	PACIFC-THAI ELECTRILWIRE&CADLE CO.,LTD	E84081
		TRW(B)	GREAT LEOFON INDUSTRIAL CO LTD	E211989
4	TAPE	CAT NO 1350-1 130°C	3M COMPANY ELECTRICAL MARKETS DIV (EMI)	E17385
		#PZ-280 130°C	HUIZHOU YAHUA STICKING TAPE CO.,LTD	E165111
		CAT NO 35660	SYMBIO INC	E50292(S)
5	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.,LTD	-
6	SLEEVEING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO.,LTD	E156256
7	VARNISH	V1380FC /1360FS	P D GEORGE	E75225
8	EPOXY	3300A/B	SUZHOU EATTO ELECTRONIC MATERIAL CO.LTD	E218090
APPROVED BY		CHECKED BY		DRAWING BY
林宗財		丁俊德		張娟溪

(O/P 12-16V) (KPL PCB with FUSE1)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 6

CUSTOMER: 貴冠

TYPE: PQ-2620

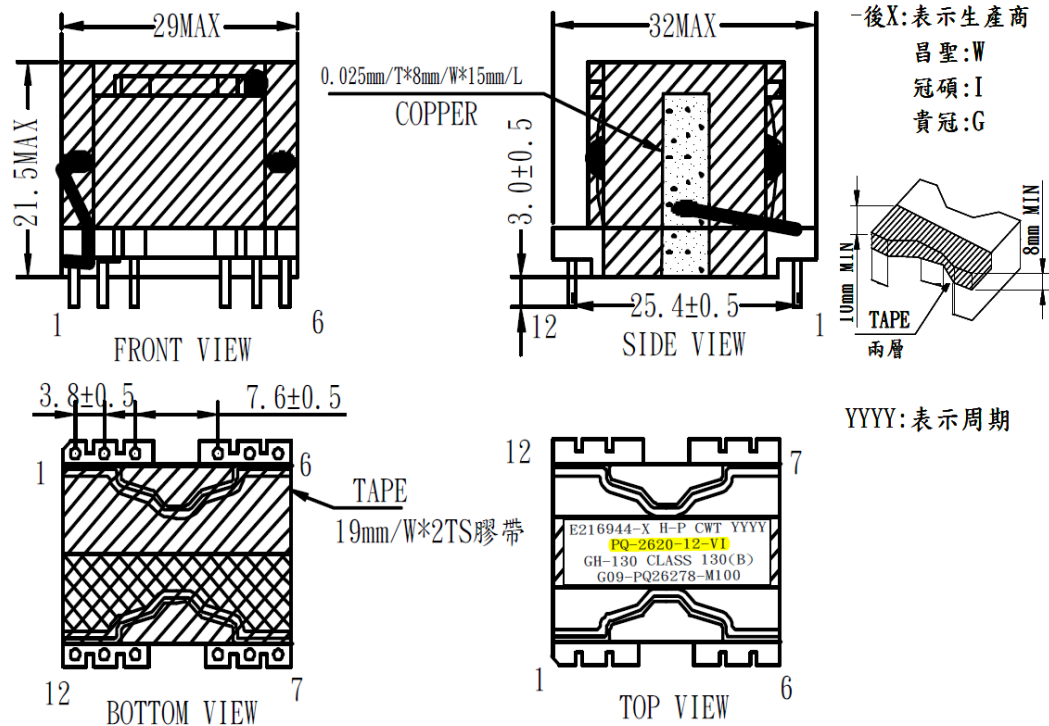
PART NO: G09-PQ26278-M100

OUR P/N: _____

REVISION: A

ISSUE DATE: 2015.5.12

1. MECHANICAL DIMENSIONS: (UNIT :mm)



NOTE:

- PIN2, 7, 10 NO, PIN5 CUT OFF1/2.
- 底部磁芯加工PIN7-12(如圖所示).
- 所有出入線需加TFL套管.
- 側面貼自粘銅箔0.025mm/T*8mm/W*15mm/L, 引線為Φ0.3, 加TFL接於PIN1.
- 研磨磁芯置於變壓器頂部, CORE TAPE:19mm/W*2TS(切口在側面), 成品用15mm膠帶沿線包方向包2TS.
- 磁芯與磁芯結合處及磁芯與BOBBIN結合處, 共點膠五點固定(如圖所示).
- 標籤貼於頂部, 字腳朝向PIN1-6側(如圖所示).

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	彭小平	彭小平

(O/P 12-16V) (KPL PCB with F1, F2)

Product: AC Adaptor

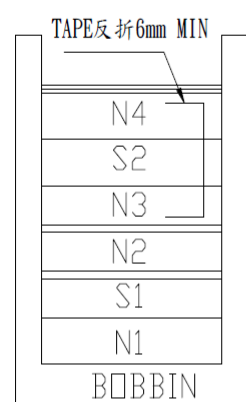
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 6

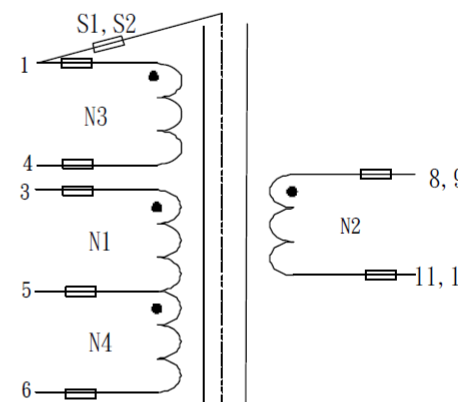
CUSTOMER: 貴冠	TYPE: PQ-2620
PART NO: G09-PQ26278-M100	OUR P/N:
REVISION: A	ISSUE DATE: 2015.5.12

2. CONSTRUCTIONS:



TAPE反折6mm MIN
 PIN
 3Ts TAPE
 1Ts TAPE
 1Ts TAPE
 2Ts TAPE
 2Ts TAPE
 1Ts TAPE

3. SCHEMATIC:



: TEFLON TUBE
 : START

4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	丝包线 Φ0.1mm*25P	3	5	24TS	1TS	V	V	
S1	0.025mm/T*8mm/W	1	-	1TS	2TS	V		
N2	TRW(B) Φ0.8mm*2P	8,9	11,12	4TS	2TS	V	V	
N3	2UEW Φ0.16mm*2P	1	4	5TS	1TS	V	V	疏繞
S2	0.025mm/T*8mm/W	1	-	1TS	1TS	V		
N4	丝包线 Φ0.1mm*25P	5	6	11TS	3TS	V	V	

NOTE :

- S1, S2銅箔須背膠, 引線為Φ0.3mm.
- 靠底部繞N3是需貼一塊膠帶, 待N4繞完後反折6mm MIN.

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	彭小平	彭小平

(O/P 12-16V) (KPL PCB with F1, F2)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 5 OF 6

CUSTOMER: 貴冠	TYPE: PQ-2620
PART NO: G09-PQ26278-M100	OUR P/N: _____
REVISION: A	ISSUE DATE: 2015.5.12

5. ELECTRICAL CHARACTERISTICS: (AT 20°C 65±5%RH)

(1). INDUCTANCE: AT 10KHz 1.0V
L(3-6): 650uH +/- 5%

(2). LEAKAGE INDUCTANCE: AT 60KHz 0.25V
LK(3-6): 12uH MAX (SEC SHORT)

(3). DC RESISTANCE:
DCR(3-6): 195mΩ MAX
DCR(PIN1-CORE): 50kΩ MAX

(4). HI-POT TEST : AC 50Hz OR 60Hz 5mA 3SEC
PRI -- SEC: 3000V
SEC -- CORE: 1500V
PRI -- CORE: 1500V

(5). INSULATION RESISTANCE: DC500V
PRI--SEC: 100M OHMS MIN
SEC--CORE: 100M OHMS MIN
PRE--CORE: 100M OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	彭小平	彭小平

(O/P 12-16V) (KPL PCB with F1, F2)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 6 OF 6

CUSTOMER: 貴冠		TYPE: PQ-2620		
PART NO: G09-PQ26278-M100		OUR P/N:		
REVISION: A		ISSUE DATE: 2015.5.12		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO.,LTD	E59481(S)
2	CORE	M2.3K	HAO BO ELECTRONICSSCIENE&TECHNILOGY CO.,LTD	-
		SSP-44	SHANGPENG	-
		PF-2L	CWGC	-
		3F3	FEROCXCUBE	-
		JF2	SPINEL	-
3	MAGNET WIRE	DD-NYU Polyurethane MW75 130°C	PACIFC-THAI ELECTRILWIRE&CADLE CO.,LTD	E84081
		2UEW 130°C	SHENZHEN CHENGWEI INDUSTRY CO LTD	E227475
		TRW(B)	GREAT LEOFON INDUSTRIAL CO LTD	E211989
4	TAPE	CAT NO 1350-1 130°C	3M COMPANY ELECTRICAL MARKETS DIV (EMI)	E17385
		#PZ-280 130°C	HUIZHOU YAHUA STICKING TAPE CO.,LTD	E165111
		CAT NO 35660	SYMBIO INC	E50292(S)
5	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.,LTD	-
6	SLEEVEING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO.,LTD	E156256
7	VARNISH	V1380FC /1360FS	P D GEORGE	E75225
8	EPOXY	3300A/B	SUZHOU EATTO ELECTRONIC MATERIAL CO.LTD	E218090
APPROVED BY		CHECKED BY		DRAWING BY
李俊良		彭小平		彭小平

(O/P 12-16V) (KPL PCB with F1, F2)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 1 OF 4

CUSTOMER: 冠碩

MODEL: PQ-2620-17

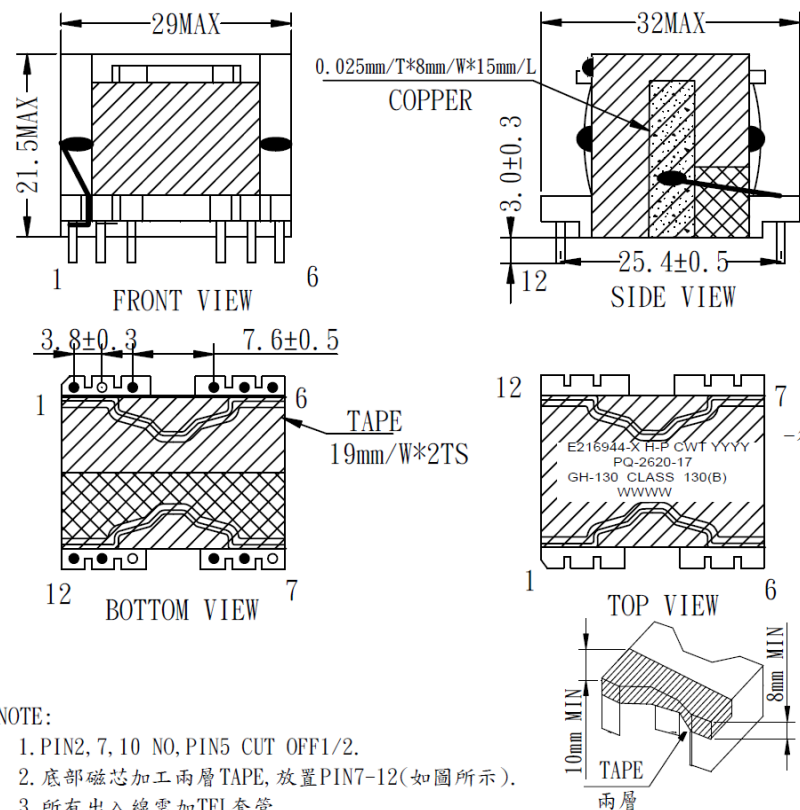
PART NO: G09-PQ26205-M100

OUR P/N: _____

REVISION: A

ISSUE DATE: 2011-02-14

1. MECHANICAL DIMENSIONS: (UNIT :mm)



-後X:表示生產商
昌聖:W
冠碩:I
貴冠:G
YYYY:表示周期
WWWWW:表示料號

APPROVED BY	CHECKED BY	DRAWING BY
林宗財	丁俊德	張娟溪

(O/P 17-24V) (KPL)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

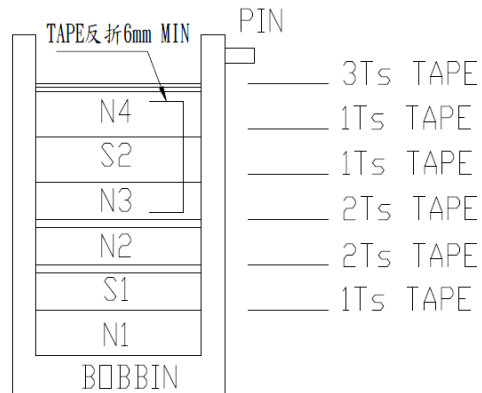
SHEET: 2 OF 4

CUSTOMER: 冠 碩 MODEL: PQ-2620-17

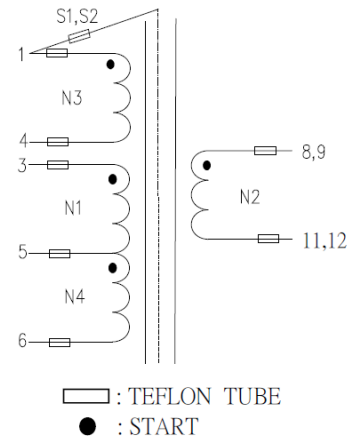
PART NO: G09-PQ26205-M100 OUR P/N: _____

REVISION: A ISSUE DATE: 2011-02-14

2. CONSTRUCTIONS:



3. SCHEMATIC:



4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	2UEW Φ0.4mm*2P	3	5	20TS	1TS	V	V	
S1	0.025mm/T*8mm/W	1	-	1TS	2TS	V		
N2	TRW(B) Φ1.0mm	8,9	11,12	7TS	2TS	V	V	
N3	2UEW Φ0.16mm*2P	1	4	5TS	1TS	V	V	疏繞
S2	0.025mm/T*8mm/W	1	-	1TS	1TS	V		
N4	2UEW Φ0.4mm*2P	5	6	20TS	3TS	V	V	

NOTE :

1. S1, S2銅箔須背膠, 引線為Φ0.3mm.
2. 靠底部繞N3是需貼一塊膠帶, 待N4繞完後反折6mm MIN.

APPROVED BY	CHECKED BY	DRAWING BY
林宗財	丁俊德	張娟溪

(O/P 17-24V) (KPL)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: 冠 碩	MODEL: PQ-2620-17
PART NO: G09-PQ26205-M100	OUR P/N: _____
REVISION: A	ISSUE DATE: 2011-02-14

5. ELECTRICAL CHARACTERISTICS: (AT 20°C 65±5%RH)

(1). INDUCTANCE: AT 1KHz 0.25V
L(3-6): 0.85mH±4%

(2). LEAKAGE INDUCTANCE: AT 60KHz 0.25V
LK(3-6): uH MAX (SEC SHORT)

(3). DC RESISTANCE:
DCR(3-6): 200mΩ MAX
DCR(PIN1-CORE): 50kΩ MAX

(4). HI-POT TEST : AC 50Hz OR 60Hz 5mA 3SEC
PRI -- SEC: 3000V
SEC -- CORE: 1500V
PRI -- CORE: 1500V

(5). INSULATION RESISTANCE: DC500V
PRI--SEC: 100M OHMS MIN
SEC--CORE: 100M OHMS MIN
PRI--CORE: 100M OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY
林宗財	丁俊德	張娟溪

(O/P 17-24V) (KPL)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: 冠 碩		MODEL: PQ-2620-17		
PART NO: G09-PQ26205-M100		OUR P/N: _____		
REVISION: A		ISSUE DATE: 2011-02-14		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO.,LTD	E59481(S)
2	CORE	M2.3K	HAO BO	-
		SSP-44	SHANGPENG	-
		PF-2L	CWGC	-
		3F3	FEROXCUBE	
		JF2	SPINEL	-
3	MAGNET WIRE	DD-NYU Polyurethane MW75 130°C	PACIFC-THAI ELECTRILWIRE&CADLE CO.,LTD	E84081
		TRW(B)	GREAT LEOFON INDUSTRIAL CO LTD	E211989
4	TAPE	CAT NO 1350-1 130°C	3M COMPANY ELECTRICAL MARKETS DIV (EMI)	E17385
		#PZ-280 130°C	HUIZHOU YAHUA STICKING TAPE CO.,LTD	E165111
		CAT NO 35660	SYMBIO INC	E50292(S)
5	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.,LTD	-
6	SLEEVING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO.,LTD	E156256
7	VARNISH	V1380FC /1360FS	P D GEORGE	E75225
8	EPOXY	3300A/B	SUZHOU EATTO ELECTRONIC MATERIAL CO.LTD	E218090
APPROVED BY		CHECKED BY		DRAWING BY
林宗財		丁俊德		張娟溪

(O/P 17-24V) (KPL)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 1 OF 4

CUSTOMER: _____

TYPE: PQ-2620

PART NO: G09-PQ26301-M1A0

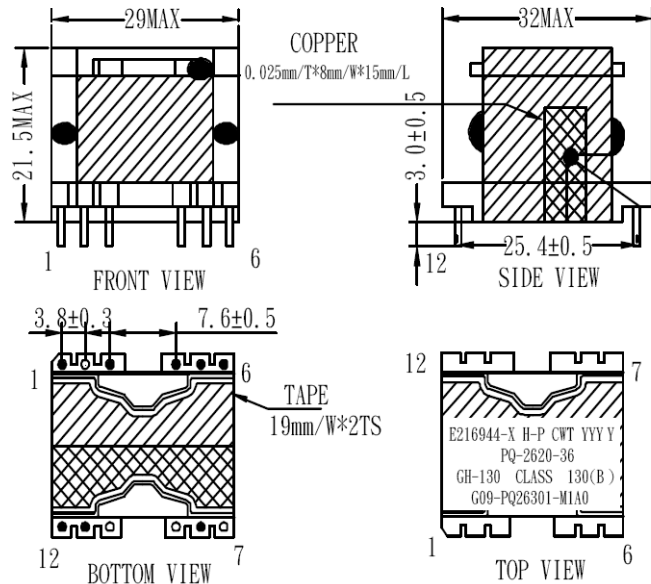
OUR P/N: _____

REVISION: A

ISSUE DATE: 2017.06.03

1. MECHANICAL DIMENSIONS: (UNIT : mm)

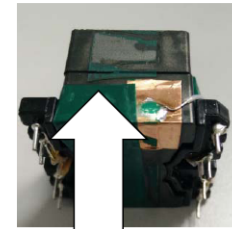
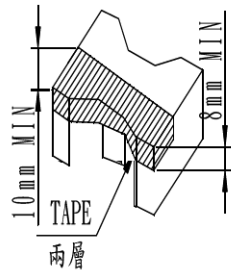
成品單重: 41.8g



-後X:表示生產商
昌聖:W
央霖:I
貴冠:G
YYYY:標示週期

NOTE:

- PIN2, 7, 10 NO, PIN5 CUT OFF 1/2.
- 底部磁芯加工兩層TAPE, 放置PIN7-12(如圖所示).
- 磁芯與磁芯結合處及磁芯與BOBBIN結合處點膠共5點。
- 所有出入線需加TFL套管。
- 沿PIN1側貼自粘銅箔0.025mm/T*8mm/W*15mm/L, 焊引線Φ0.252鍍錫線, 加TFL接於PIN1. 自粘銅箔距離次級磁芯7mmMIN. (如圖所示)
- 研磨磁芯置於變壓器頂部, CORE TAPE: 19mm/W*2TS(切口在側面).
- 標籤材質為25#透明龍, 標籤貼於頂部, 字腳朝向PIN1-6側(如圖所示)



距離次級磁芯7mmMIN

APPROVED BY	CHECKED BY	DRAWING BY
楊景龍	張麗雲	龍建華

(O/P 36V) (KPL)

Product: AC Adaptor

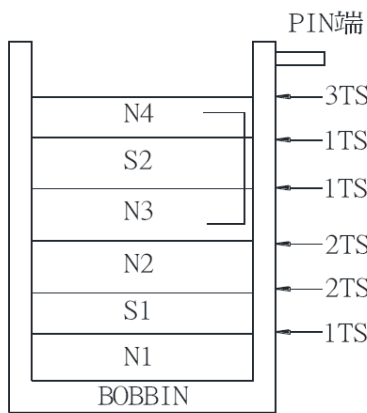
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

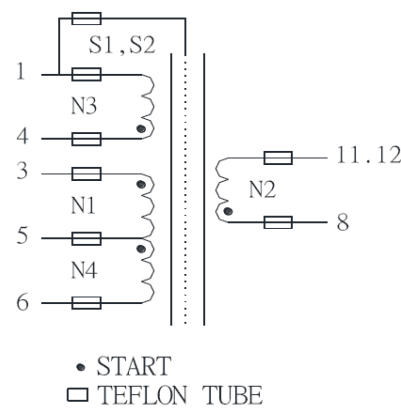
SHEET: 2 OF 4

CUSTOMER: _____		TYPE: PQ-2620	
PART NO: G09-PQ26301-M1A0		OUR P/N: _____	
REVISION: A		ISSUE DATE: 2017.06.03	

2. CONSTRUCTIONS:



3. SCHEMATIC:



• START
□ TEFLON TUBE

4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	2UEW Φ 0.4mm*2P	3	5	20TS	1TS	V	V	密繞
S1	0.025mm/T*8mm/W	1	--	1TS	2TS	V		
N2	TRW(B) Φ 0.5mm*2P	8	11.12	11TS	2TS	V	V	密繞
N3	2UEW Φ 0.16mm*2P	1	4	5TS	1TS	V	V	疏繞
S2	0.025mm/T*8mm/W	1	--	1TS	1TS	V		
N4	2UEW Φ 0.4mm*2P	5	6	20TS	3TS	V	V	密繞

NOTE :

1. S1, S2銅箔四端包膠, 引線為 Φ 0.3mm.
2. 靠底部繞N3時需貼反折膠帶, 待N4繞完后反折6mm MIN.

APPROVED BY	CHECKED BY	DRAWING BY
楊景龍	張麗雲	龍建華

(O/P 36V) (KPL)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: _____	TYPE: PQ-2620 _____
PART NO: G09-PQ26301-M1A0 _____	OUR P/N: _____
REVISION: A _____	ISSUE DATE: 2017.06.03 _____

5. ELECTRICAL CHARACTERISTICS: (AT 20°C 65±5%RH)

- (1). INDUCTANCE: AT 10KHz 0.25V
L(3-6): 0.85mH±5%
- (2). LEAKAGE INDUCTANCE: AT 60KHz 0.25V
LK(3-6): 10μH MAX (SEC SHORT)
- (3). DC RESISTANCE:
DCR(3-6): 200mΩ MAX
DCR(PIN1-CORE): 50KΩ MAX
- (4). HI-POT TEST : AC 50Hz OR 60Hz 5mA 3SEC
PRI-SEC: 3000V
SEC-CORE: 1500V
PRI-CORE: 1500V
ARC(電弧測試): 5級(12mA)
- (5). INSULATION RESISTANCE: DC500V
PRI-SEC: 100M OHMS MIN
SEC-CORE: 100M OHMS MIN
PRI-CORE: 100M OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY
楊景龍	張麗雲	龍建華

(O/P 36V) (KPL)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: _____		TYPE: PQ-2620 _____		
PART NO: G09-PQ26301-M1A0 _____		OUR P/N: _____		
REVISION: A _____		ISSUE DATE: 2017.06.03 _____		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0	CHANG CHUN	E59481
2	CORE	SSP-4	SHANGPENG	-
		JP4	JIULONGWANG	-
3	MYLAR TAPE	CT* 130 °C	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	E165111
4	MAGNET WIRE	UEW-U	SIAM PACIFIC ELECTRIC WIRE & CABLE CO LTD	E142108
5	Triple insulated wire	TRW(B)	GREAT LEOFLON INDUSTRIAL CO LTD	E211989
6	SLEEVING	TFL	GREAT HOLDING INDUSTRIAL CO LTD	E156256
7	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.LTD	-
8	VARNISH	V1380FC	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	E75225
9	EPOXY	3300A-1/3300B-1	DONGGUAN EATTO	E218090
APPROVED BY		CHECKED BY		DRAWING BY
楊景龍		張麗雲		龍建華

(O/P 36V) (KPL)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

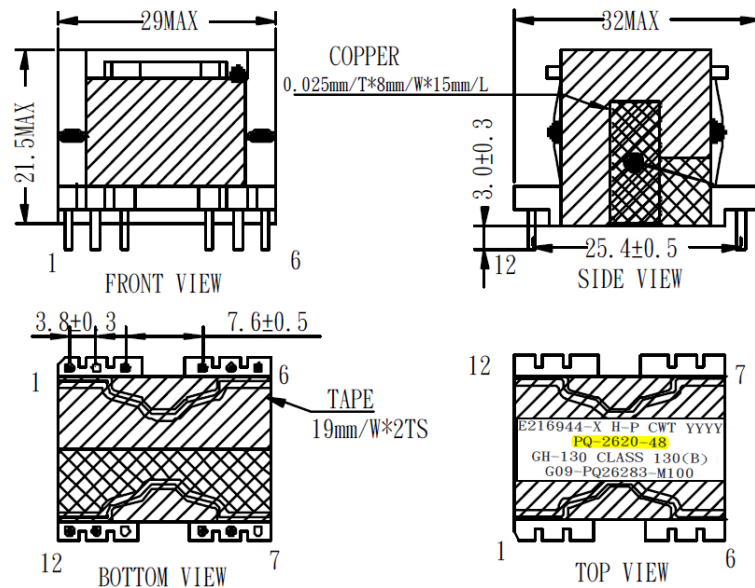
SHEET: 3 OF 6

CUSTOMER: 貴冠 TYPE: PQ-2620

PART NO: G09-PQ26283-M100 OUR P/N: _____

REVISION: A ISSUE DATE: 2015.05.12

1. MECHANICAL DIMENSIONS: (UNIT :mm)



後X:表示生產商

昌聖:W

冠碩:I

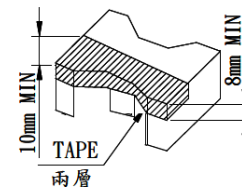
貴冠:G

YYYY:表示周期

WWWW:表示料號

NOTE:

- PIN2, 7, 10 NO, PIN5 CUT OFF1/2.
- 底部磁芯加工兩層TAPE, 放置PIN7-12(如圖所示).
- 所有出入線需加TFL套管.
- 側面貼自粘銅箔0.025mm/T*8mm/W*15mm/L, 引線為Φ0.3, 加TFL接於PIN1.
- 研磨磁芯置於變壓器頂部, CORE TAPE:19mm/W*2TS(切口在側面).
- 磁芯與磁芯結合處及磁芯與BOBBIN結合處, 共點膠五點固定(如圖所示).
- 標籤貼於頂部, 字腳朝向PIN1-6側(如圖所示).



APPROVED BY	CHECKED BY	DRAWING BY
李俊良	楊景龍	張麗云

(O/P 48-56V) (KPL)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

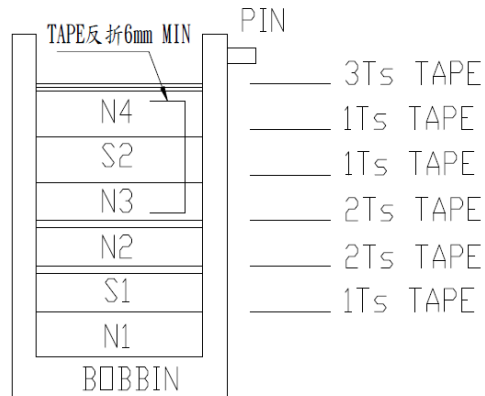
SHEET: 4 OF 6

CUSTOMER: 貴冠 TYPE: PQ-2620

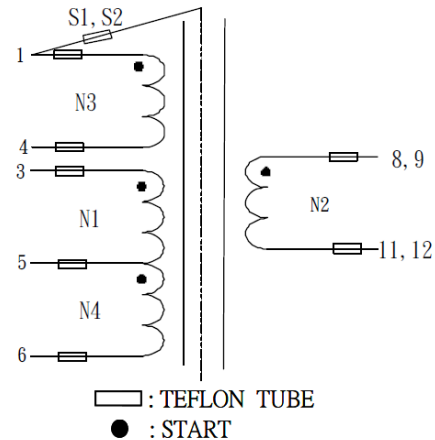
PART NO: G09-PQ26283-M100 OUR P/N: _____

REVISION: A ISSUE DATE: 2015.5.12

2. CONSTRUCTIONS:



3. SCHEMATIC:



4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	2UEW Φ0.4mm*2P	3	5	20TS	1TS	V	V	
S1	0.025mm/T*8mm/W	1	-	1TS	2TS	V		
N2	TRW(B) Φ0.4mm*2P	8,9	11,12	14TS	2TS	V	V	
N3	2UEW Φ0.16mm*2P	1	4	5TS	1TS	V	V	疏繞
S2	0.025mm/T*8mm/W	1	-	1TS	1TS	V		
N4	2UEW Φ0.4mm*2P	5	6	20TS	3TS	V	V	

NOTE :

1. S1, S2銅箔須背膠, 引線為Φ0.3mm.
2. 靠底部繞N3是需貼一塊膠帶, 待N4繞完後反折6mm MIN.

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	楊景龍	張麗云

(O/P 48-56V) (KPL)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 5 OF 6

CUSTOMER: 貴冠	TYPE: PQ-2620
PART NO: G09-PQ26283-M100	OUR P/N: _____
REVISION: A	ISSUE DATE: 2015.5.12

5. ELECTRICAL CHARACTERISTICS: (AT 20°C 65±5%RH)

(1). INDUCTANCE: AT 10KHz 0.25V
L(3-6): 0.85mH±5%

(2). LEAKAGE INDUCTANCE: AT 60KHz 0.25V
LK(3-6): 10 μ H MAX (SEC SHORT)

(3). DC RESISTANCE:
DCR(3-6): 200m Ω MAX
DCR(PIN1-CORE): 50k Ω MAX

(4). HI-POT TEST : AC 50Hz OR 60Hz 5mA 3SEC
PRI -- SEC: 3000V
SEC -- CORE: 1500V
PRI -- CORE: 1500V

(5). INSULATION RESISTANCE: DC500V
PRI--SEC: 100M OHMS MIN
SEC--CORE: 100M OHMS MIN
PRI--CORE: 100M OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	楊景龍	張麗云

(O/P 48-56V) (KPL)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 6 OF 6

CUSTOMER: 貴冠		TYPE: PQ-2620		
PART NO: G09-PQ26283-M100		OUR P/N: _____		
REVISION: A		ISSUE DATE: 2015.5.12		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO.,LTD	E59481(S)
2	CORE	M2.3K	HAO BO	-
		SSP-44	SHANGPENG	-
		PF-2L	CWGC	-
		3F3	FEROXCUBE	
		JF2	SPINEL	-
3	MAGNET WIRE	DD-NYU Polyurethane MW75 130°C	PACIFC-THAI ELECTRIL WIRE&CADLE CO.,LTD	E84081
		2UEW 130°C	SHENZHEN CHENGWEI INDUSTRY CO LTD	E227475
		TRW(B)	GREAT LEOFON INDUSTRIAL CO LTD	E211989
4	TAPE	CAT NO 1350-1 130°C	3M COMPANY ELECTRICAL MARKETS DIV (EMI)	E17385
		#PZ-280 130°C	HUIZHOU YAHUA STICKING TAPE CO.,LTD	E165111
		CAT NO 35660	SYMBIO INC	E50292(S)
5	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.,LTD	-
6	SLEEVING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO.,LTD	E156256
7	VARNISH	V1380FC /1360FS	P D GEORGE	E75225
8	EPOXY	3300A/B	SUZHOU EATTO ELECTRONIC MATERIAL CO.LTD	E218090
APPROVED BY		CHECKED BY		DRAWING BY
李俊良		楊景龍		張麗云

(O/P 48-56V) (KPL)

Product: AC Adaptor

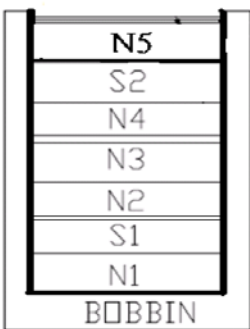
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 2 OF 4

CUSTOMER: _____	TYPE: _____	PQ2620-12
PART NO: _____	OUR P/N: _____	
REVISION: _____	D01	ISSUE DATE: 2014/11/20

2. CONSTRUCTIONS :



1T _s	TAPE
1T _s	TAPE
1T _s	TAPE
2T _s	TAPE
1T _s	TAPE
2T _s	TAPE
1T _s	TAPE

3. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	MARGIN TAPE		SLEEVING	NOTE
						PIN	TOP		
N1	Φ0.3mm*2 2UEW	6	5	26TS	1TS	X	X	TFL	/
S1	0.025mm/T*8mm/W	1	/	1TS	2TS	X	X	TFL	引線為φ0.25
N2	TRW(B) φ0.6mm*2	8.9	11.12	5TS	1TS	X	X	TFL	待N5繞完後,反折至PIN 11.12
N3	TRW(B) φ0.6mm*2	8.9	11.12	5TS	2TS	X	X	TFL	腳,線包再包覆兩圈TYPE
N4	Φ0.25mm*2 2UEW	3	1	7TS	1TS	X	X	TFL	靠近Pin 1密繞
S2	0.025mmT*8mm/W	1	/	1TS	1TS	X	X	TFL	引線為φ0.25
N5	Φ0.3mm*2 2UEW	5	4	12TS	1TS	X	X	TFL	/

*必要時,線包外層包覆銅箔
 *各繞組圈數依實際運作結果調整.

APPROVED BY	CHECKED BY	DRAWING BY

Product: AC Adaptor

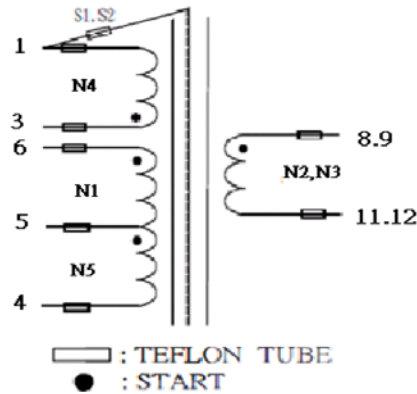
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: _____	TYPE: <u>PQ2620-12</u>
PART NO: _____	OUR P/N: _____
REVISION: <u>D01</u>	ISSUE DATE: <u>2014/12/16</u>

4. SCHEMATIC:



5. ELECTRICAL CHARACTERISTICS : (AT 25°C 65±5%RH).

- (1). INDUCTANCE: AT 1KHz 1V.
L(3-6): 820uH±5%
- (2). LEAKAGE INDUCTANCE: AT 1KHz 1V.
LK(3-6): uH MAX
- (3). DC RESISTANCE:
DCR(-): MAX
- (4). HI-POT TEST: AC 50Hz OR 60Hz. 10mA 60SEC.
PRI-SEC : 3750V
SEC-CORE: 1500V
- (5). INSULATION RESISTANCE: DC 500V.
PRI-SEC: 100M OHMS MIN
SEC-CORE: 100M OHMS MIN

APPROVED BY

CHECKED BY

DRAWING BY

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: _____		TYPE: PQ2620-12		
PART NO: _____		OUR P/N: _____		
REVISION: D01		ISSUE DATE: 2014/12/16		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	CORE PQ2620	PC44	TDK	/
		JF2	斯貝爾	
		3C94	PHILIPS	
		M44	浩博	/
		NH2B	聯豐	
		2P4	賽茂	/
2	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO., LTD.	E59481(S)
3	MAGNET WIRE	UEW-U	PACIFIC	E84081
		TRW(B)	GREATLEOFLO	E211989
4	MARGIN TAPE	CAT NO 35660	SYMBIO INC	E50292
		NO. #1350-1	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	E17385
5	COPPER	0.025mmT	ZHENGZEIXIANG	/
6	SLEEVING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO., LTD	E156256(S)
7	VARNISH	V-1630FS	VIKING	E73071
APPROVED BY		CHECKED BY		DRAWING BY

PQ2620-12 for 2ABFxxxYzzzzz, Y=F T1 used

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 1 OF 4

CUSTOMER: _____

TYPE: PQ2620-48

PART NO: G09-PQ26304-M1A0

OUR P/N: _____

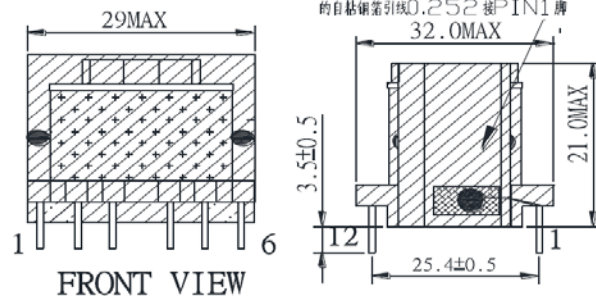
REVISION: A

ISSUE DATE: _____

1. MECHANICAL DIMENSIONS: (UNIT :mm)

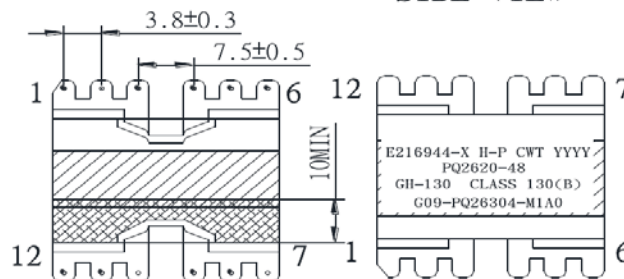
產品單重: 38.3g

貼一塊0.025mm/T*8mm/W12mm
的自粘銅箔引線0.252接PIN1脚



FRONT VIEW

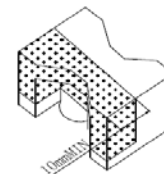
SIDE VIEW



BOTTOM VIEW

TOP VIEW

-後*:表示生產商
昌聖:W
央霖:I
貴冠:G
YYYY:標示週期



磁芯背膠示意圖

NOTE:

- PIN2, 7, 10, NO. PIN5 CUT OFF 1/2.
- 所有出入都需加套管,
- 研磨磁芯置於變壓器頂部,
- 變壓器底部磁芯PIN7-12側需背膠兩層, 如圖所示
- 中柱需點軟膠, 磁芯結合處點膠4點加以固定.
- 沿PIN1側磁芯橫貼一塊0.025mm/T*8mm/W約12mmL的自粘銅箔引線0.252接於PIN1脚.
再包CORE TAPE:10mm/W*3TS.
- 變壓器外圍以20mm寬度包覆2TS絕緣膠帶.
- 標籤材質為25#透明龍, 標籤貼於頂部, 字朝向PIN1-6側(如圖所示).

APPROVED BY

楊景龍

CHECKED BY

張麗雲

DRAWING BY

龍建華

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

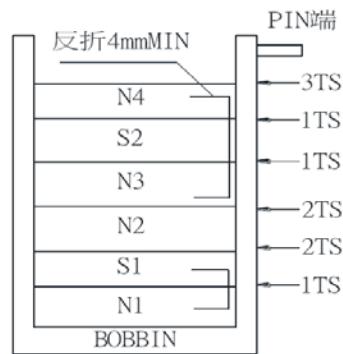
SHEET: 2 OF 4

CUSTOMER: _____ TYPE: PQ2620-48

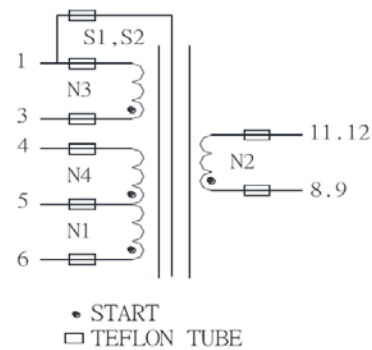
PART NO: G09-PQ26304-M1A0 OUR P/N: _____

REVISION: A ISSUE DATE: _____

2. CONSTRUCTIONS:



3. SCHEMATIC:



初級圈數N1, S1與N3, S2, N4絕緣膠帶須反折

4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	2UEW Φ 0.3mm*2P	6	5	26TS	1TS	V	V	密繞
S1	0.025mm/T*8mm/W	1	--	0.9TS	2TS	V		
N2	TRW(B) Φ 0.5mm	8.9	11.12	12TS	2TS	V	V	密繞
N3	2UEW Φ 0.25mm*2P	3	1	5TS	1TS	V	V	靠PIN端密繞
S2	0.025mm/T*8mm/W	1	--	0.9TS	1TS	V		
N4	2UEW Φ 0.3mm*2P	5	4	12TS	3TS	V	V	密繞

NOTE :

1. S1, S2銅箔四端包膠, 引線為 Φ 0.3mm.
2. N3靠PIN端密繞.

APPROVED BY	CHECKED BY	DRAWING BY
楊景龍	張麗雲	龍建華

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: _____	TYPE: PQ2620-48 _____
PART NO: G09-PQ26304-M1A0 _____	OUR P/N: _____
REVISION: A _____	ISSUE DATE: _____

5. ELECTRICAL CHARACTERISTICS: (AT20°C 65±5%RH)

- (1). INDUCTANCE: AT 1KHz 1V
L(6-4): 0.75mH±5%
- (2). LEAKEGE INDUCTANCE: AT 1KHz 1V
LK(6-4): 25uH MAX (SEC SHORT)
- (3). DC RESISTANCE:
DCR(6-4): 280mΩ MAX
- (4). HI-POT TEST : AC 50Hz OR 60Hz 5mA 60SEC
PRI-SEC: 3000V
PRI-CORE: 1500V
SEC-CORE: 1500V
ARC(電弧測試): 5級(12mA)
- (5). INSULATION RESISTANCE: DC500V
PRI-SEC: 100M OHMS MIN
SEC-CORE: 100M OHMS MIN
PRI-CORE: 100M OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY
楊景龍	張麗雲	龍建華

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: _____		TYPE: PQ2620-48		
PART NO: G09-PQ26304-M1A0		OUR P/N: _____		
REVISION: A		ISSUE DATE: _____		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0	CHANG CHUN	E59481
2	CORE	JP44	JIULONGWANG	-
3	MYLAR TAPE	CT* 130 °C	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	E165111
4	MAGNET WIRE	UEW-U	SIAM PACIFIC ELECTRIC WIRE & CABLE CO LTD	E142108
5	Triple insulated wire	TRW(B)	GREAT LEOFロン INDUSTRIAL CO LTD	E211989
6	SLEEVING	TFL	GREAT HOLDING INDUSTRIAL CO LTD	E156256
7	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.LTD	-
8	VARNISH	V1380FC	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	E75225
9	EPOXY	3300A-1/3300B-1	DONGGUAN EATTO	E218090
APPROVED BY		CHECKED BY		DRAWING BY
楊景龍		張麗雲		龍建華

PQ2620-48 for 2ACLxxxYzzzzz, Y= R, S, U T1 used and 2ABFxxxYzzzzz, Y=R T1 used.

Product: AC Adaptor

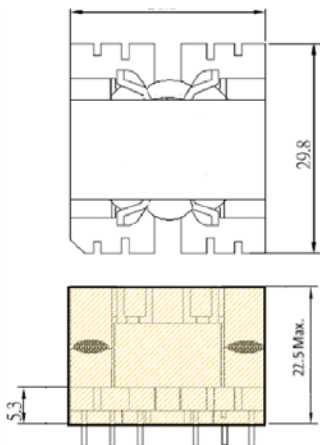
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 1 OF 4

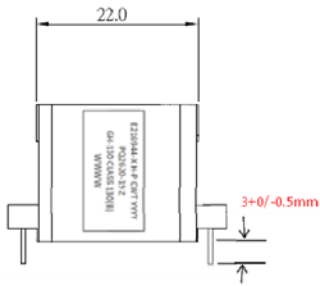
CUSTOMER: _____	TYPE: <u>PQ2620-19</u>
PART NO: _____	OUR P/N: _____
REVISION: <u>A02</u>	ISSUE DATE: <u>2015/08/18</u>

1. MECHANICAL DIMENSIONS: (UNIT:mm)



29.8

22.5 Max.



22.0

3+0/-0.5mm

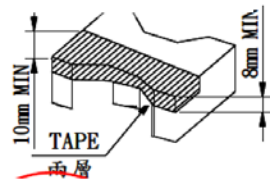
E216944-X H-P CWT YYYYY

PQ2620-19 Z

GH-130 CLASS 130(B)

WWWW

X=生產地(W/D/T)
YYYY=生產週期
Z=A-Z or BLANK
WWWW=PART NO.



10mm MIN

8mm MIN

TAPE

兩層

NOTE:

1. PIN 2, 7, 10 CUT OFF, PIN 5 CUT OFF 1/2.
2. 初級圈繞線組需包覆反折膠帶(如 2. CONSTRUCTIONS 圖示), 所有出線需加 TFL 套管.
3. 研磨磁芯置於變壓器頂部, CORE TAPE: 14mm/W*2TS(切口於側面)
4. 變壓器底部(次級側鐵心)需要加膠帶絕緣, 同下圖示
5. 本體外需包覆膠帶 2 層(TAPE 20mm)
6. 磁芯接合處需點 EPOXY 固定, 共四點.
7. PIN 腳長度 3 +0/-0.5mm.
8. 變壓器需二次含浸作業.



(靠近次級側絕緣)

APPROVED BY _____	CHECKED BY _____	DRAWING BY _____

Product: AC Adaptor

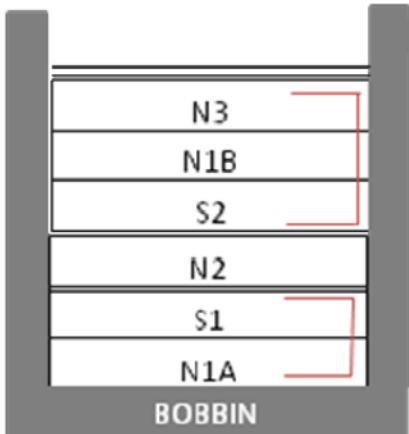
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 2 OF 4

CUSTOMER: _____	TYPE: <u>PQ2620-19</u>
PART NO: _____	OUR P/N: _____
REVISION: <u>A02</u>	ISSUE DATE: <u>2015/08/18</u>

2. CONSTRUCTIONS :



TAPE 3TS

TAPE 1TS

TAPE 1TS

TAPE 2TS

TAPE 2TS

TAPE 1TS

3. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	MARGIN TAPE		SLEEVING	NOTE
						PIN	TOP		
N1A	Φ0.32mm*2 2UEW	6	5	23TS	1TS	X	X	TFL	/
S1	Φ0.14mm*2 2UEW	1	/	23TS	2TS	X	X	TFL	圈數為參考值, 以鋪平為主
N2	TRW(B) φ 0.85mm*1	8	11	7TS	2TS	X	X	TFL	頂部出線,待N3 繞完後再折回
S2	Φ0.14mm*2 2UEW	1	/	21TS	1TS	X	X	TFL	圈數為參考值, 以鋪平為主
N1B	Φ0.32mm*2 2UEW	5	4	22TS	1TS	X	X	TFL	/
N3	Φ0.25mm*2 2UEW	3	1	6TS	3TS	X	X	TFL	靠近 Pin 1 密繞

APPROVED BY	CHECKED BY	DRAWING BY

Product: AC Adaptor

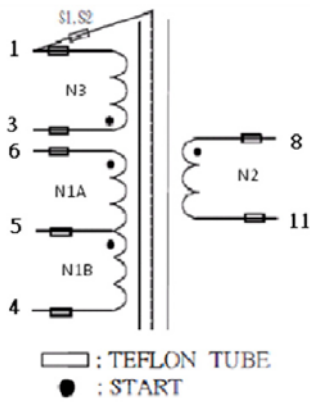
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: _____	TYPE: <u>PQ2620-19</u>
PART NO: _____	OUR P/N: _____
REVISION: <u>A02</u>	ISSUE DATE: <u>2015/08/18</u>

4. SCHEMATIC:



: TEFLON TUBE
 : START

5. ELECTRICAL CHARACTERISTICS : (AT 25°C 65±5%RH).

- (1). INDUCTANCE: AT 1KHz 1V.
L(3-6): 1000uH±5%
- (2). LEAKAGE INDUCTANCE: AT 1KHz 1V.
LK(3-6): uH MAX
- (3). DC RESISTANCE:
DCR(-): MAX
- (4). HI-POT TEST: AC 50Hz OR 60Hz. 10mA 60SEC.
PRI-SEC : 3750V
SEC-CORE: 1500V
- (5). INSULATION RESISTANCE: DC 500V.
PRI-SEC: 100M OHMS MIN
SEC-CORE: 100M OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: _____		TYPE: PQ2620-19		
PART NO: _____		OUR P/N: _____		
REVISION: A02		ISSUE DATE: 2015/08/18		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	CORE PQ2620 (禁用精研 FP2A 與未列入用料表之鐵心)	PC44	TDK	/
		3C94/3C96	飛磁	
		M44	浩博	/
		MB4	川鐵	
		2P4	賽茂	/
2	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO., LTD.	E59481(S)
3	MAGNET WIRE	UEW-U	PACIFIC	E84081
		TRW(B)	GREATLEOFLON	E211989
4	MARGIN TAPE	CAT NO 35660	SYMBIO INC	E50292
		NO. #1350-1	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	E17385
5	COPPER	0.025mmT	ZHENGZEIXIANG	/
6	SLEEVING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO., LTD	E156256(S)
7	VARNISH	V-1630FS	VIKING	E73071
8	EPOXY	3300A/B	SUZHOU EATTO ELECTRONIC MATERIAL CO. LTD	E218090
APPROVED BY		CHECKED BY	DRAWING BY	

PQ2620-19 for 2ACLxxxYzzzzz, y=K, M T1 used.

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 1 OF 4

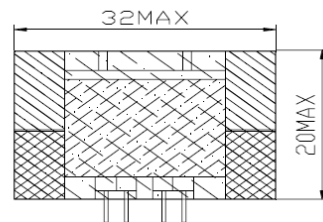
CUSTOMER: 貴冠 TYPE: RM10-12

PART NO: G09-RM10018 -M100 OUR P/N: _____

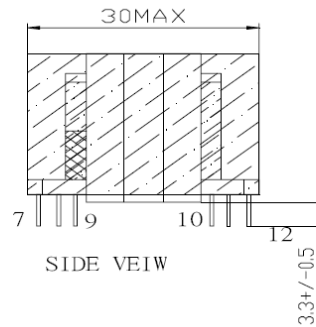
REVISION: A ISSUE DATE: 2015.06.18

1.MECHANICAL DIMENSIONS:(UNIT :mm)

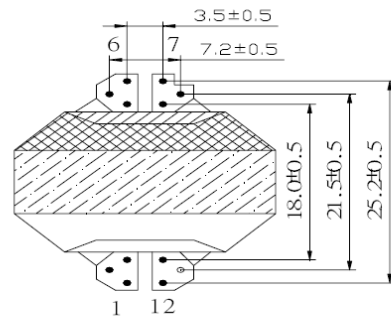
成品單重:30.8g



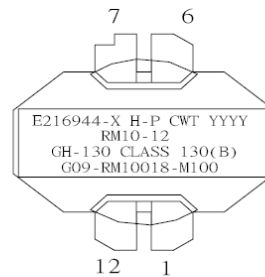
FRONT VIEW



SIDE VIEW



BOTTOM VIEW



TOP VIEW

"-X":表示生產廠商
W:表示昌圣
I:表示央霖
G:表示貴冠

"YYYY"表示生產週期

NOTE:

- PIN4,5,8,9,11,NO,PIN 2CUT OFF 1/2.
- 所有出入線均須加TFL套管.底部磁芯PIN6-7側背膠一層.
- 磁芯包15.0mm膠帶2TS膠帶.
- 標籤材質為25#透明龍.標籤貼於頂部,字腳朝向PIN1-12側(如圖所示).
- 產品外圍,平齊BOBBIN支點包18mm膠帶2TS.
- 產品磁芯結合處點膠帶4點.

APPROVED BY

李俊良

CHECKED BY

張麗云

DRAWING BY

張麗云

RM10-12 for GTR T1 used

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 2 OF 4

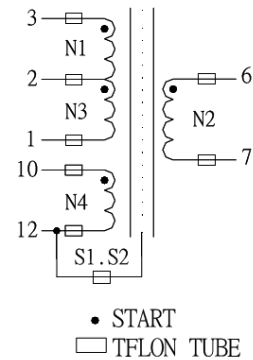
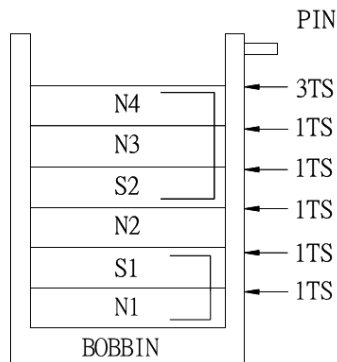
CUSTOMER: 貴冠 TYPE: RM10-12

PART NO: G09-RM10018 -M100 OUR P/N:

REVISION: A ISSUE DATE: 2015.06.18

2. CONSTRUCTIONS:

3. SCHEMATIC:



4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		NOTE
						ST	FI	
N1	Φ0.3mm*2P 2UEW	3	2	30Ts	1TS	V	V	密繞
S1	0.025mmT*8mmW	12	/	0.9TS	1TS	V		
N2	Φ0.85mm TRW(B)	6	7	9Ts	1TS	V	V	密繞
S2	0.025mmT*8mmW	12	/	0.9TS	1TS	V		
N3	Φ0.3mm*2P 2UEW	2	1	28Ts	1TS	V	V	密繞
N4	Φ0.2mm 2UEW	10	12	14Ts	3TS	V	V	疏繞

NOTE:

1. S1.S2銅箔需四端背膠,引線Φ0.3.
2. N2.PIN7.待N4完成后再掛PIN.
3. N1.S1在PIN6-7側底部加7mm反折膠帶1層.需反折4.0mm MIN.
4. S2.N3.N4在PIN6-7側底部加10mm反折膠帶一層.需反折4.0mm MIN.

APPROVED BY

李俊良

CHECKED BY

張麗云

DRAWING BY

張麗云

RM10-12 for GTR T1 used

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: 貴冠	TYPE: RM10-12
PART NO: G09-RM10018 -M100	OUR P/N:
REVISION: A	ISSUE DATE: 2015.06.18

5.ELECTRICAL CHARACTERISTICS:(AT20°C 65±5%RH)

(1).INDUCTANCE: AT 1KHz 0.3V
L(3-1):1050uH±10%

(2). LEAKAGE INDUCTANCE:AT 1KHz 0. 3V.
LK(3-1) :30uH MAX (PIN6, 7, 10, 12SHORT).

(3).DC RESISTANCE:
DCR(3-1):450mΩ MAX

(4).HI-POT TEST :AC 50Hz OR 60Hz 5mA 60SEC
PRI -- SEC:3000V
SEC -- CORE:1500V

(5).INSULATION RESISTANCE:DC 500V.
PRI -- SEC:100V OHMS MIN
SEC -- CORE:100V OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	張麗云	張麗云

RM10-12 for GTR T1 used

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 4 OF 4

CUSTOMER: 貴冠		TYPE: RM10-12		
PART NO: G09-RM10018-M100		OUR P/N: _____		
REVISION: A		ISSUE DATE: 2015.06.18		
6.MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN	E59481(S)
2	CORE	SSP-44	SHANGPENG	-
		M44K	HAOBO	
		FP2A	FINEMAG	
		JF2	SPINEL	-
3	MYLAR TAPE	PZ 130°C	YA HUA	E165111
4	MARGIN TAPE	GL27 130°C	SYMBIO INC	E50292(S)
5	MAGNET WIRE	UEW-U 130°C	SIAM PACIFIC ELECTRIC WIRE & CABLE CO LTD	E142108
6	Triple insulated wire	TRW(B) 130°C	GREAT LEFON INDUSTRIAL CO.,LTD	E211989
7	SLEEVEING	TFL 200°C	CHANGYUAN ELECTRONICS	E156256
8	COPPER	0.025mm/T	DONGGUAN ZHONGCHI METAL PRODUCT CO.LTD	-
9	VARNISH	V1380FC 130°C	ELANTAS ELECTRICAL INSULATION	E75225
APPROVED BY		CHECKED BY		DRAWING BY
李俊良		張麗云		張麗云

RM10-12 for GTR T1 used

Product: AC Adaptor

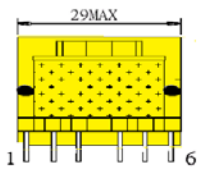
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

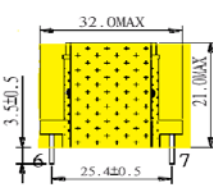
SHEET: 1 OF 4

CUSTOMER: _____	TYPE: PQ2620-05
PART NO: _____	OUR P/N: _____
REVISION: 0.1	ISSUE DATE: 2016/08/22

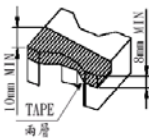
1. MECHANICAL DIMENSIONS: (UNIT:mm)



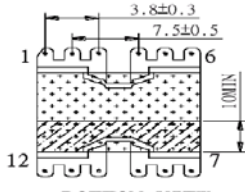
FRONT VIEW



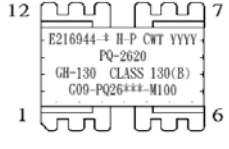
SIDE VIEW



TAPE
兩層



BOTTOM VIEW



TOP VIEW

*:表示生產廠商
YYYY:表示生產週期

NOTE:

- PIN 2, 10 CUT OFF, PIN 5 CUT OFF 1/2.
- 所有出線需加 TFL 套管.
- 研磨磁芯置於變壓器頂部, CORE TAPE: 14mm/W*2TS(切口於側面)
- 變壓器底部(次級側鐵心)需要加膠帶絕緣. 同下圖示
- 變壓器本體外圍以 20mm 寬度包覆兩圈絕緣膠帶






圖一 圖二 圖三(靠近次級側絕緣)

- 必要時於線包或鐵心包覆銅箔.
- 依實際搭配狀況調整銅線線徑與圈數

APPROVED BY	CHECKED BY	DRAWING BY

PQ2620-05 for 2ACL Y=B T1 used

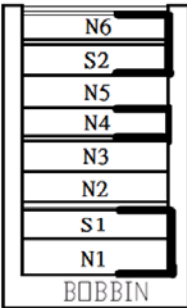
Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 2 OF 4

CUSTOMER: _____	TYPE: _____	PQ2620-05
PART NO: _____	OUR P/N: _____	
REVISION: _____	ISSUE DATE: _____	2016/08/22



PIN

3Ts TAPE

2Ts TAPE

1Ts TAPE

1Ts TAPE

2Ts TAPE

1Ts TAPE

2Ts TAPE

1Ts TAPE

BOBBIN

*初級圈數 N1/S1 與 N4/S2/N6 絕緣膠帶需要反折, 如附圖

3. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	MARGIN TAPE		SLEEVING	NOTE
						PIN	TOP		
N1	Φ0.25mm*2 2UEW	6	5	32TS	1TS	X	X	TFL	/
S1	Φ0.14mm*2 2UEW	1	/	26TS	2TS	X	X	TFL	引線為 Φ0.14
N2	TRW(B) Φ0.6mm*2	8.9	11.12	5TS	1TS	X	X	TFL	待 N6 繞完後, 反折至 PIN 11, 12 腳, 線包再包覆兩圈 TYPE
N3	TRW(B) Φ0.6mm*2	8.9	11.12	5TS	2TS	X	X	TFL	
N4	Φ0.22mm*2 2UEW	3	1	16TS	1TS	X	X	TFL	靠近 Pin 1 密繞
N5	TRW(B) Φ0.3mm	7	8.9	9TS	1TS	X	X	TFL	由上而下繞製, 待 N6 繞完後, 反折至 PIN 7 腳, 線包再包覆兩圈 TYPE
S2	Φ0.14mm*2 2UEW	1	/	23TS	2TS	X	X	TFL	引線為 Φ0.14
N6	Φ0.25mm*2 2UEW	5	4	16TS	3TS	X	X	TFL	/

*N2/N3 與 N5 上飛線, 待 N6 繞完後再一起下折, 定位後再包 N6 外圍膠帶

APPROVED BY	CHECKED BY	DRAWING BY

PQ2620-05 for 2ACL Y=B T1 used

Product: AC Adaptor

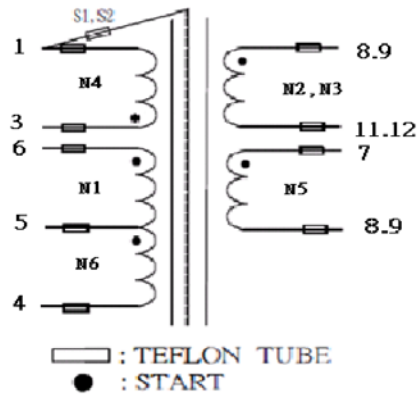
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: _____	TYPE: PQ2620-05
PART NO: _____	OUR P/N: _____
REVISION: 0.1	ISSUE DATE: 2016/08/22

4. SCHEMATIC:



5. ELECTRICAL CHARACTERISTICS : (AT 25°C 65±5%RH).

- (1). INDUCTANCE: AT 1KHz 1V.
L(3-6): 1600uH±5%
- (2). LEAKAGE INDUCTANCE: AT 1KHz 1V.
LK(3-6): uH MAX
- (3). DC RESISTANCE:
DCR(-): MAX
- (4). HI-POT TEST: AC 50Hz OR 60Hz. 10mA 60SEC.
PRI-SEC : 3750V
SEC-CORE: 1500V
- (5). INSULATION RESISTANCE: DC 500V.
PRI-SEC: 100M OHMS MIN
SEC-CORE: 100M OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY

PQ2620-05 for 2ACL Y=B T1 used

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

SPECIFICATION FOR APPROVAL

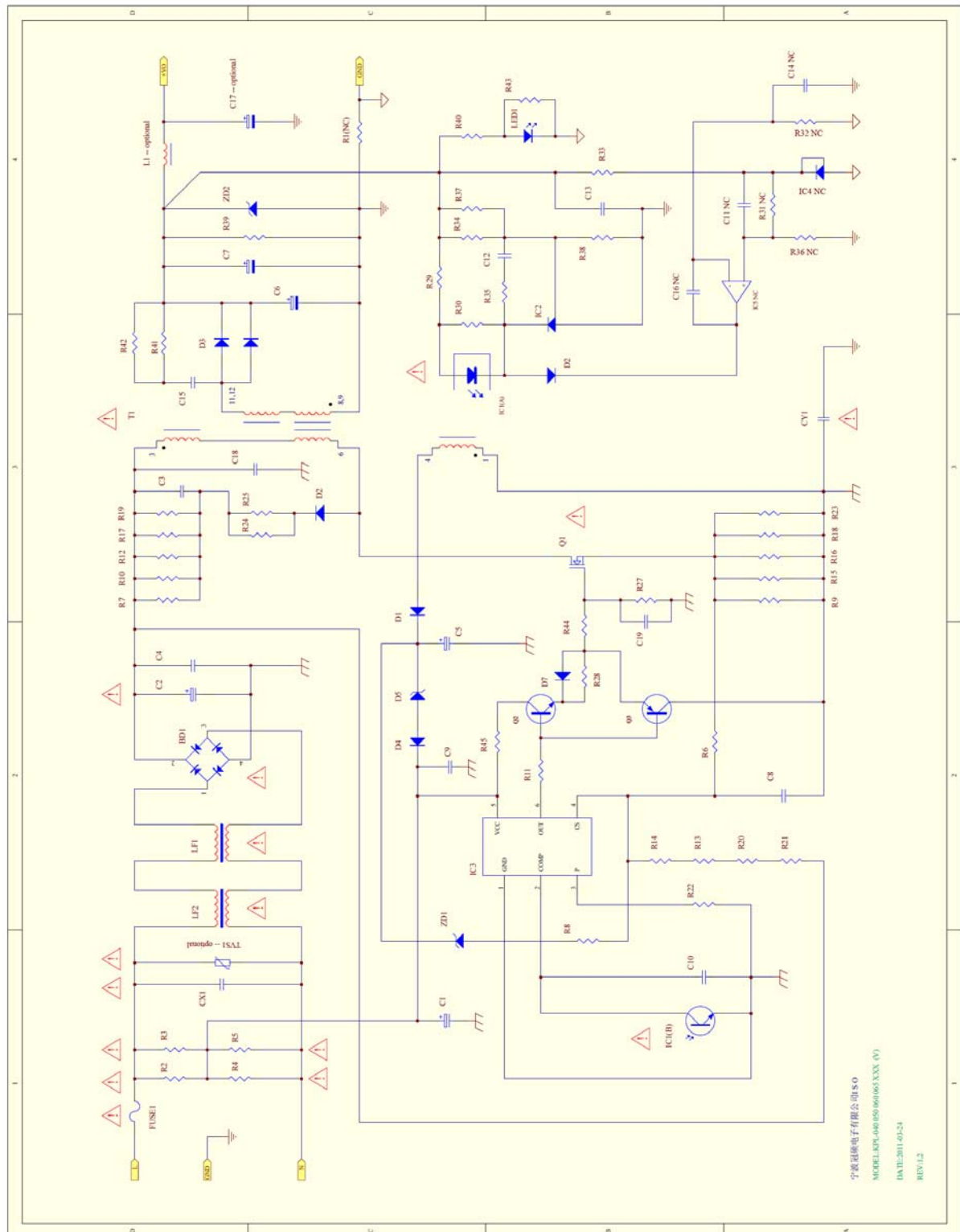
SHEET: 4 OF 4

CUSTOMER: _____		TYPE: PQ2620-05		
PART NO: _____		OUR P/N: _____		
REVISION: 0.1		ISSUE DATE: 2016/08/22		
6. MATERIAL LIST:				
NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	CORE PQ2620	PC44	TDK	/
		3C94	PHILIPS	
		2P4	赛茂	/
2	BOBBIN	PHENOLICS T375J 94V-0 150°C	CHANG CHUN PLASTICS CO., LTD.	E59481(S)
3	MAGNET WIRE	UEW-U	PACIFIC	E84081
		TRW(B)	GREATLEOFLON	E211989
4	MARGIN TAPE	CAT NO 35660	SYMBIO INC	E50292
		NO. #1350-1	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	E17385
5	COPPER	0.025mmT	ZHENGZEIXIANG	/
6	SLEEVING	TFL 200°C	GREAT HOLDING INDUSTRIAL CO., LTD	E156256(S)
7	VARNISH	V-1630FS	VIKING	E73071
APPROVED BY		CHECKED BY		DRAWING BY

PQ2620-05 for 2ACL Y=B T1 used

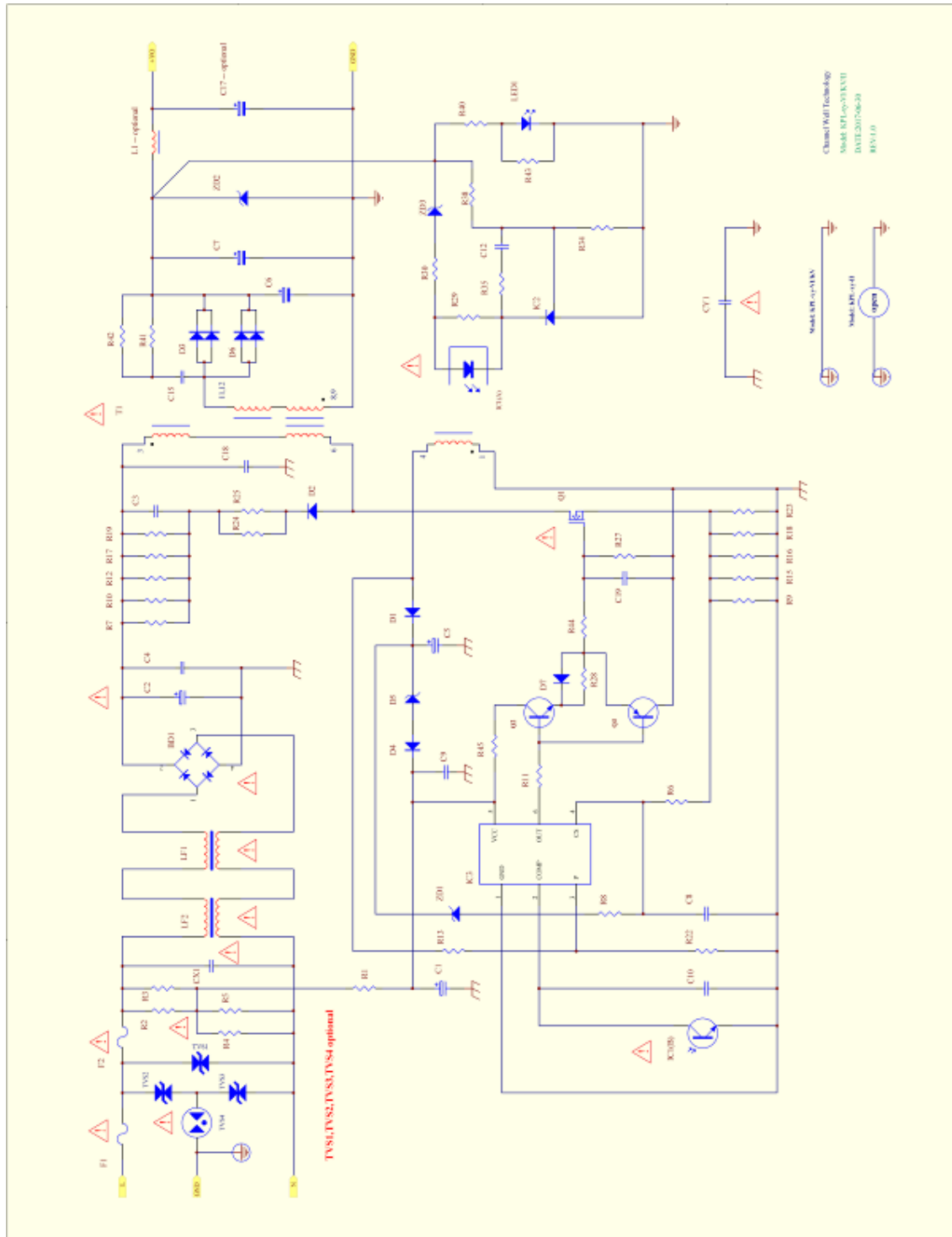
Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz



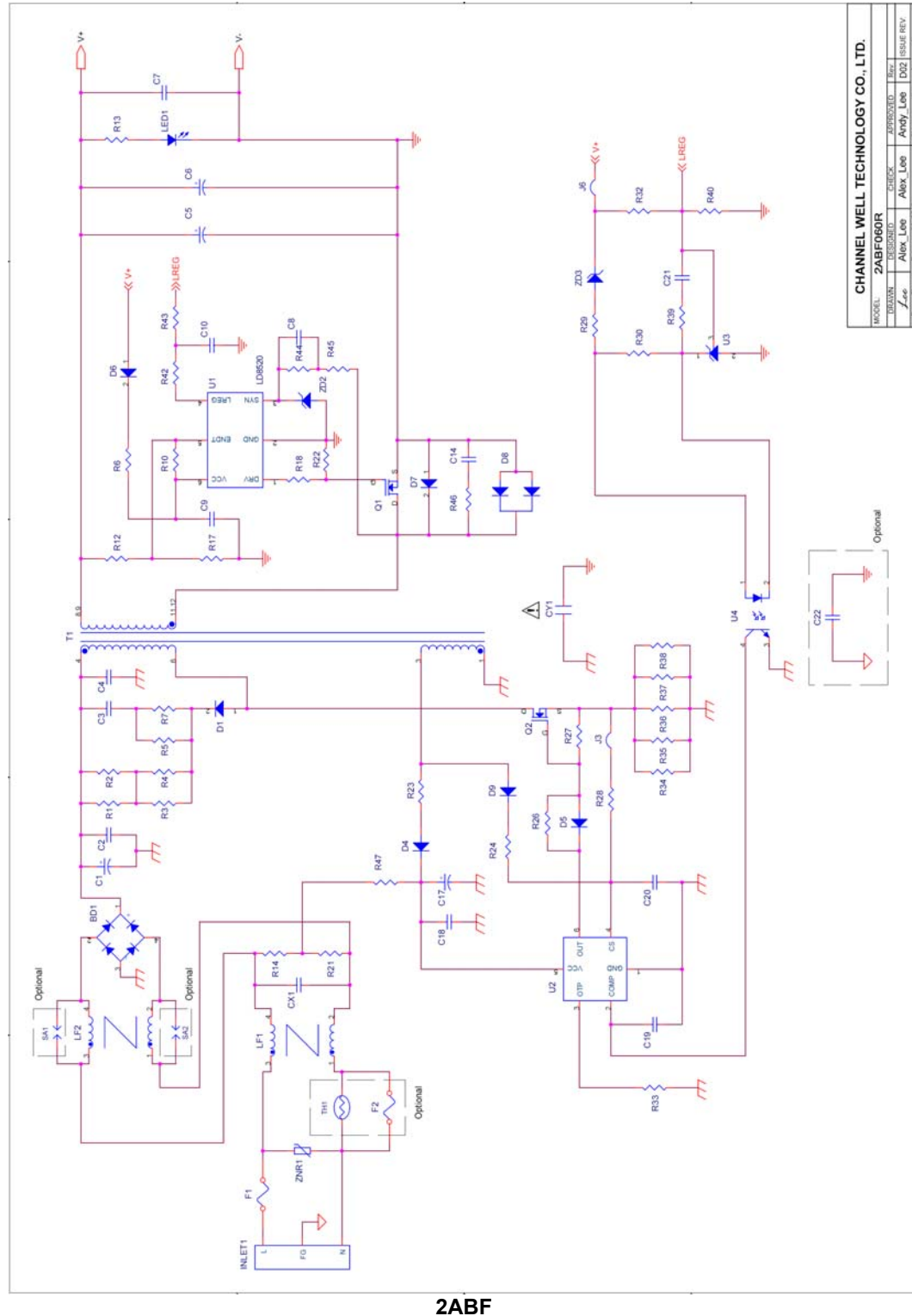
Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz



Product: AC Adaptor

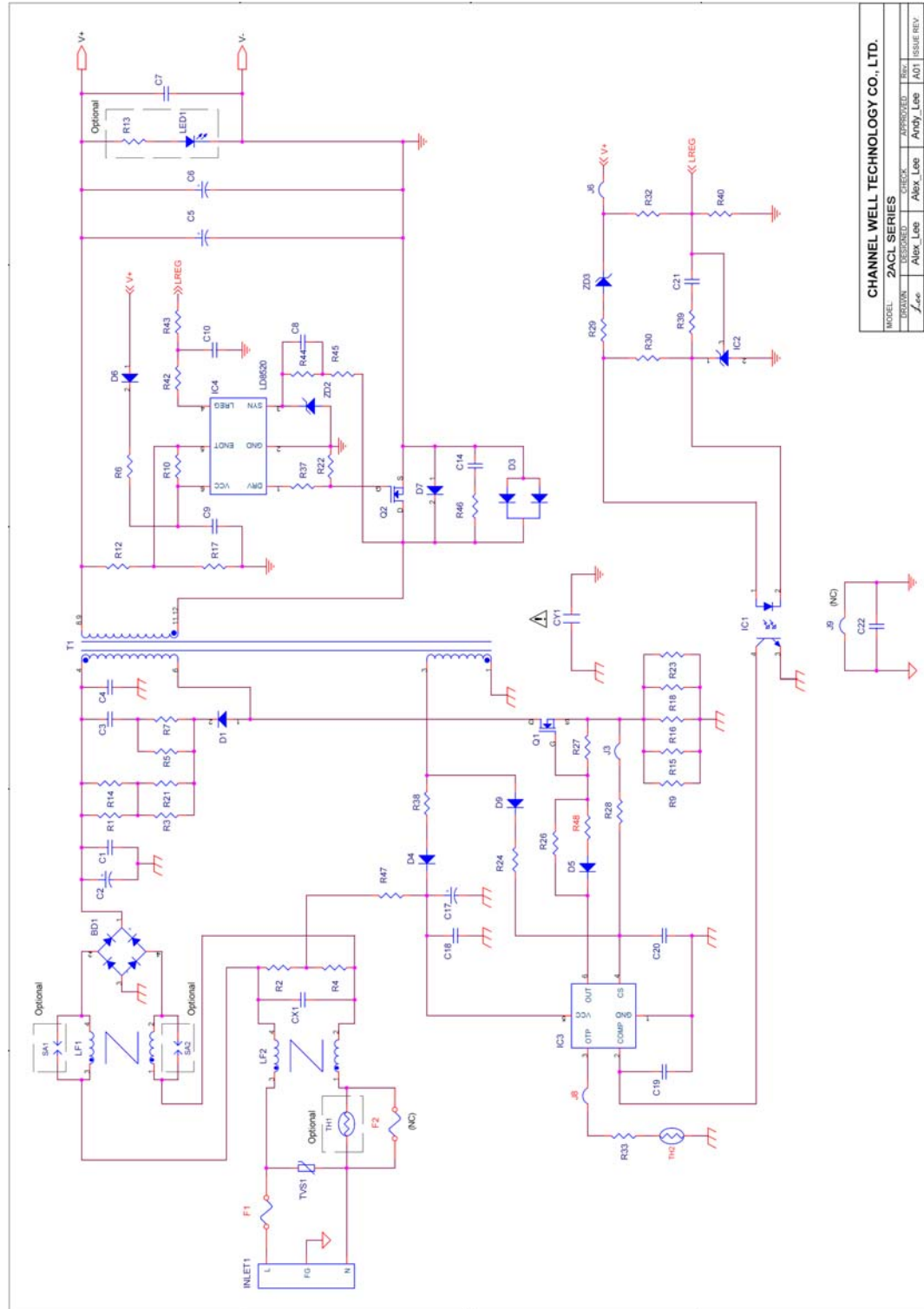
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



CHANNEL WELL TECHNOLOGY CO., LTD.				
MODEL	DESIGNED	CHECK	APPROVED	REV
2ABF060R	Alex Lee	Alex Lee	Andy Lee	DOZ ISSUE REV
Rev: 1.00	2015/05/26	2015/05/26	2015/05/26	1

Product: AC Adaptor

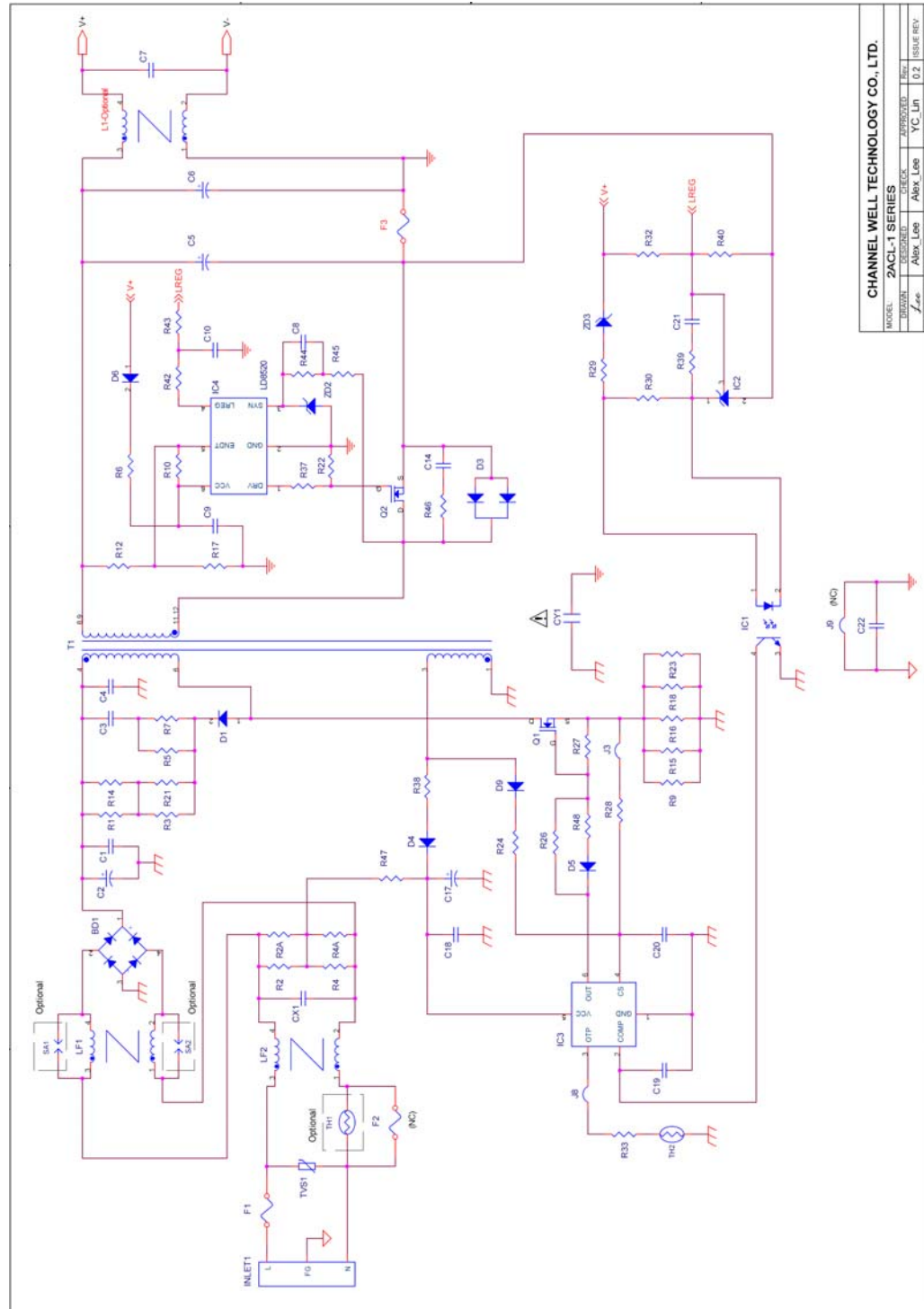
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



2ACL (except Y=B)

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

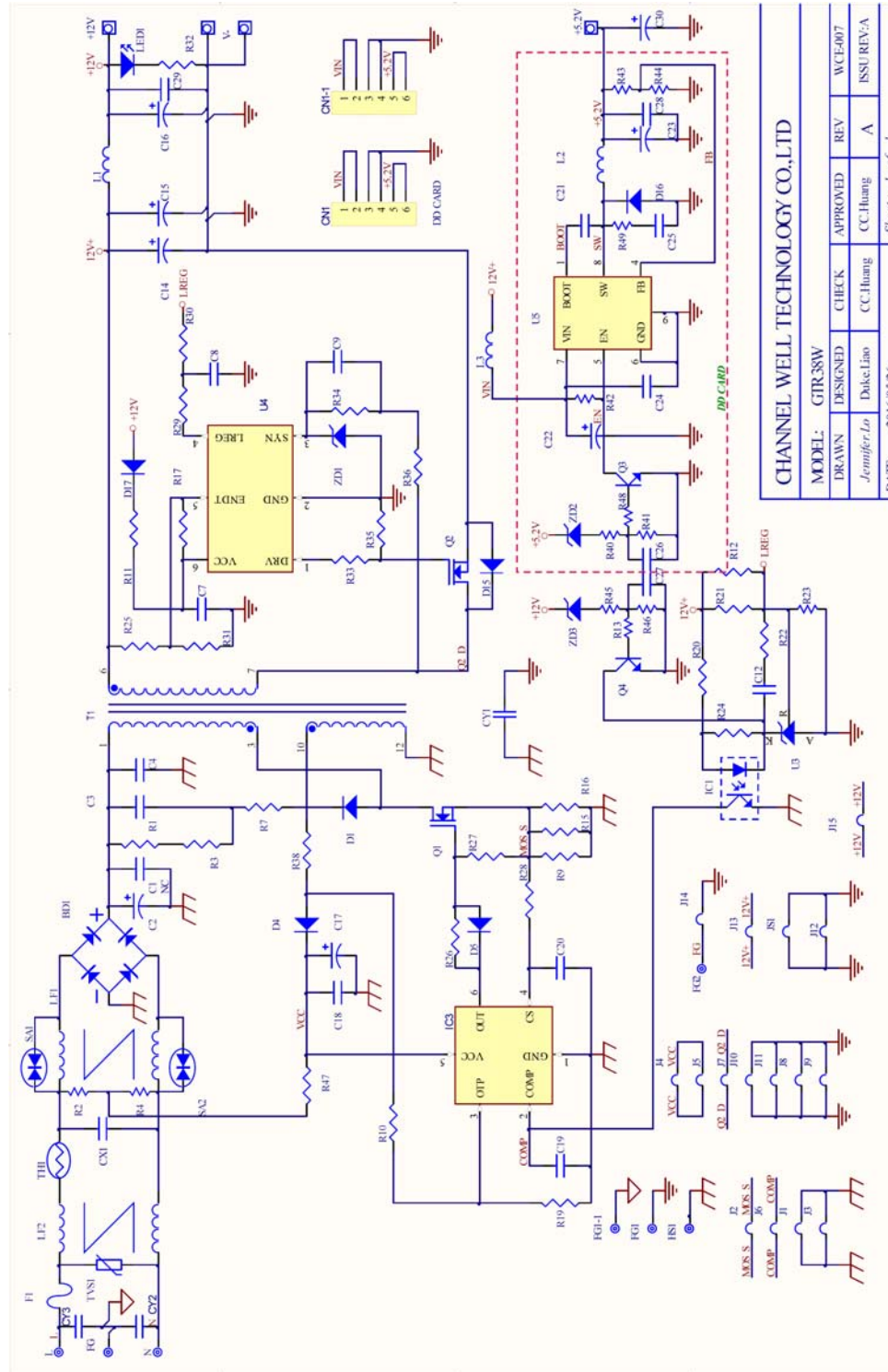


2ACL (except Y=B) (add R2A, R4A, F3, L1) (Alternative)

CHANNEL WELL TECHNOLOGY CO., LTD.					
MODEL	2ACL-1 SERIES	DESIGNED	CHECK	APPROVED	REV
DRAWN	Lee	Alex. Lee	Alex. Lee	YC. Lin	02
DATE	Thursday, April 17, 2014				ISSUE REV
					Sheet

Product: AC Adaptor

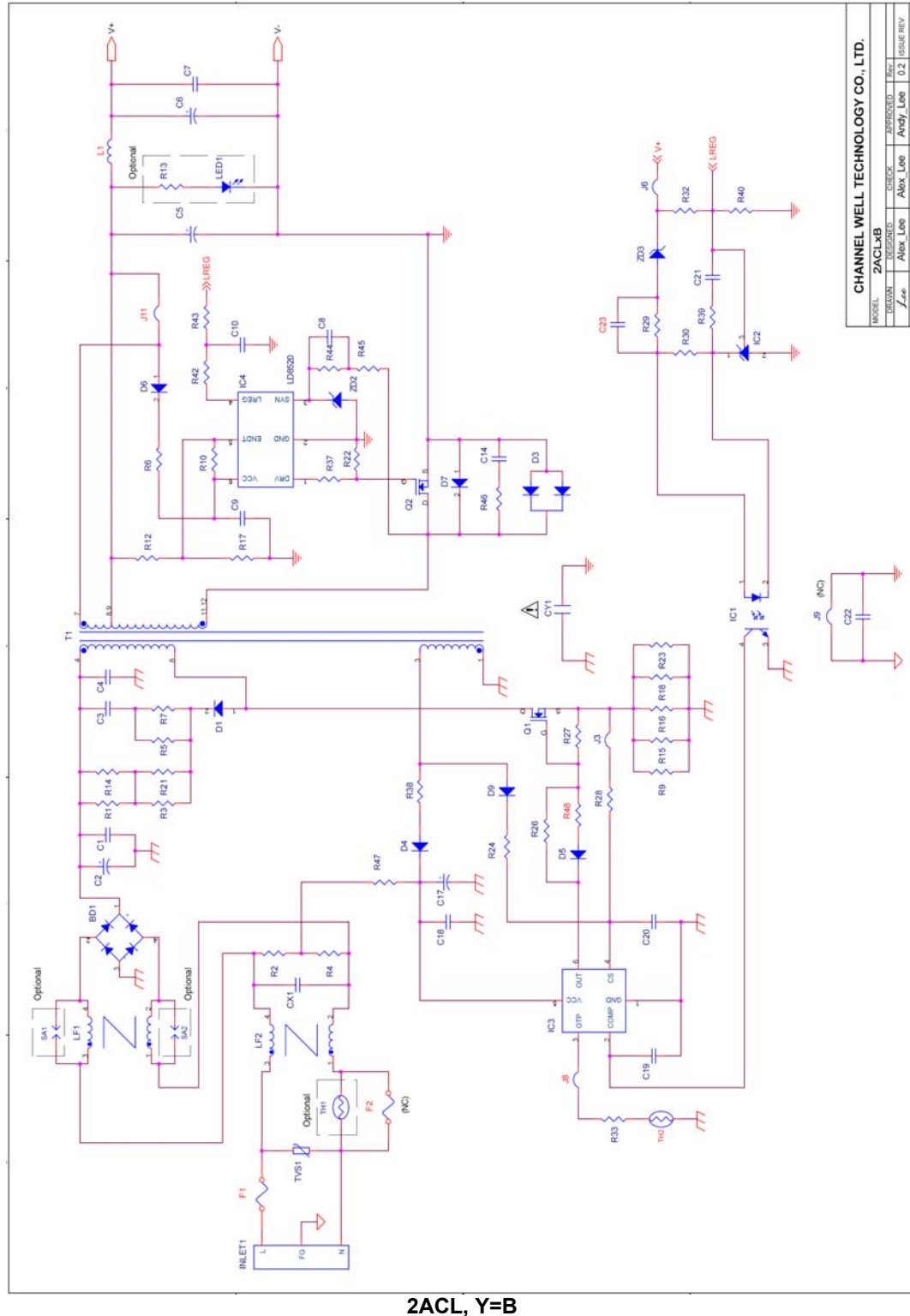
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



GTRxxxYzzzzz

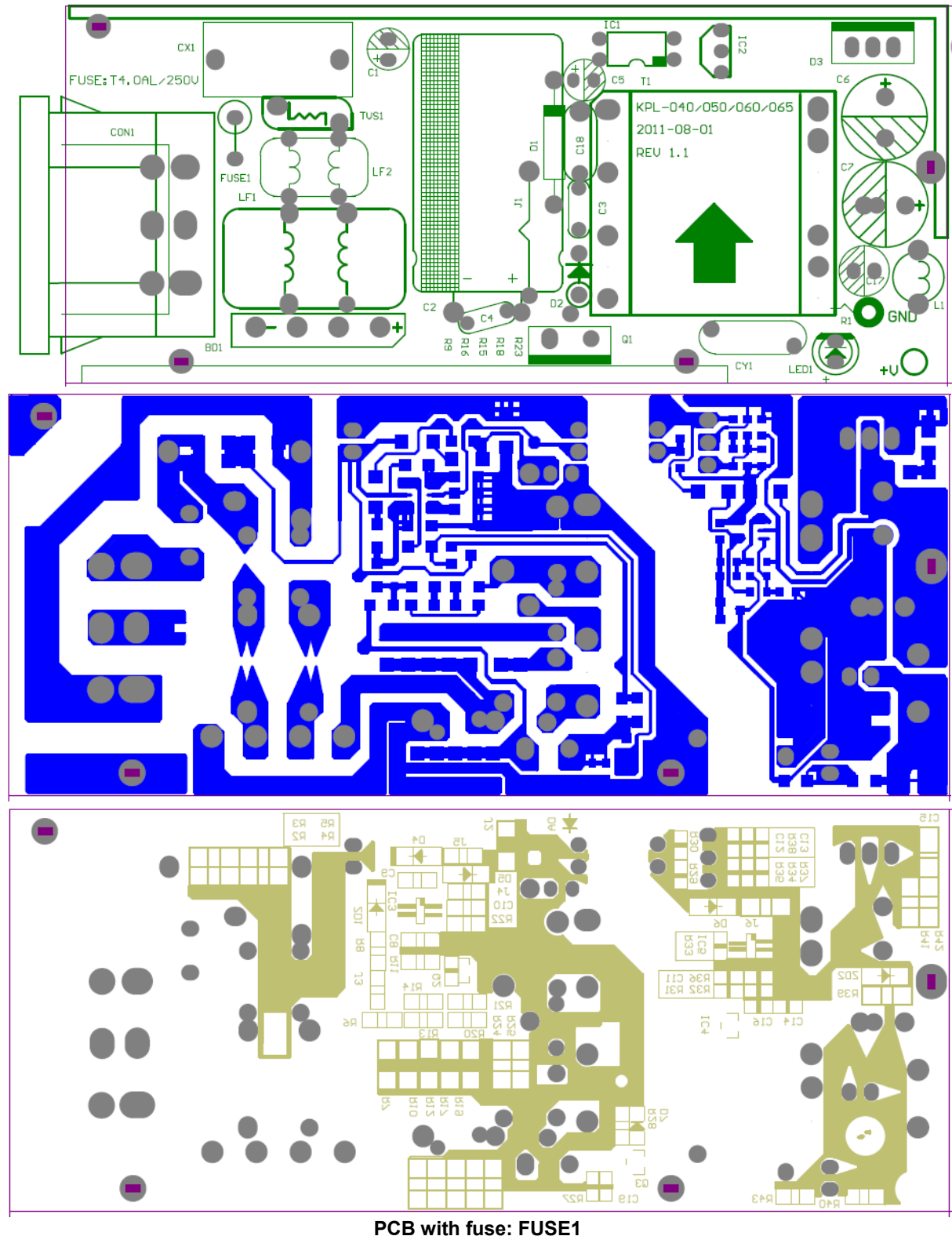
Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



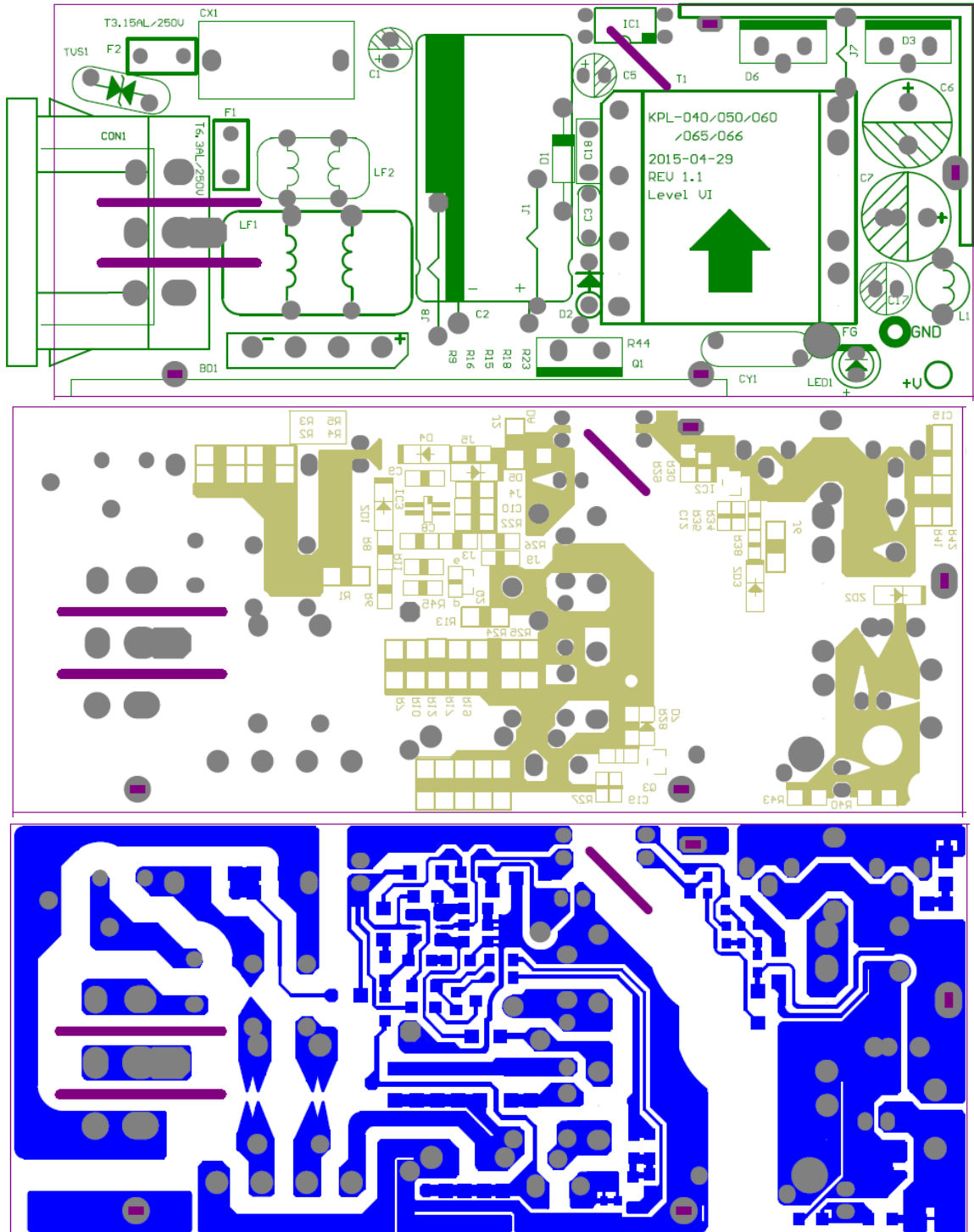
Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz,GTRxxxYzzzzz



Product: AC Adaptor

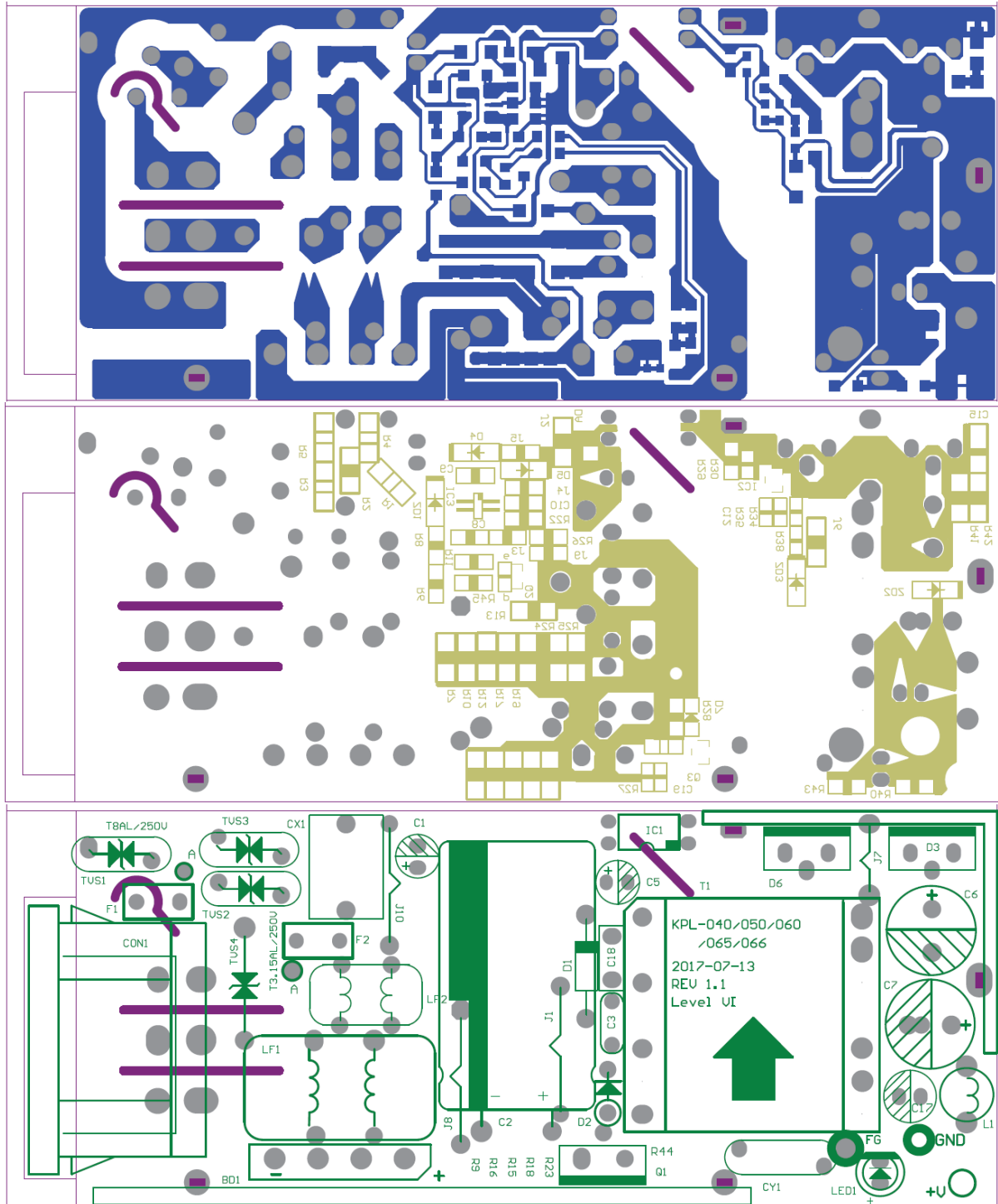
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



PCB with fuses: F1, F2 (Without TVS2, TVS3, TVS4)

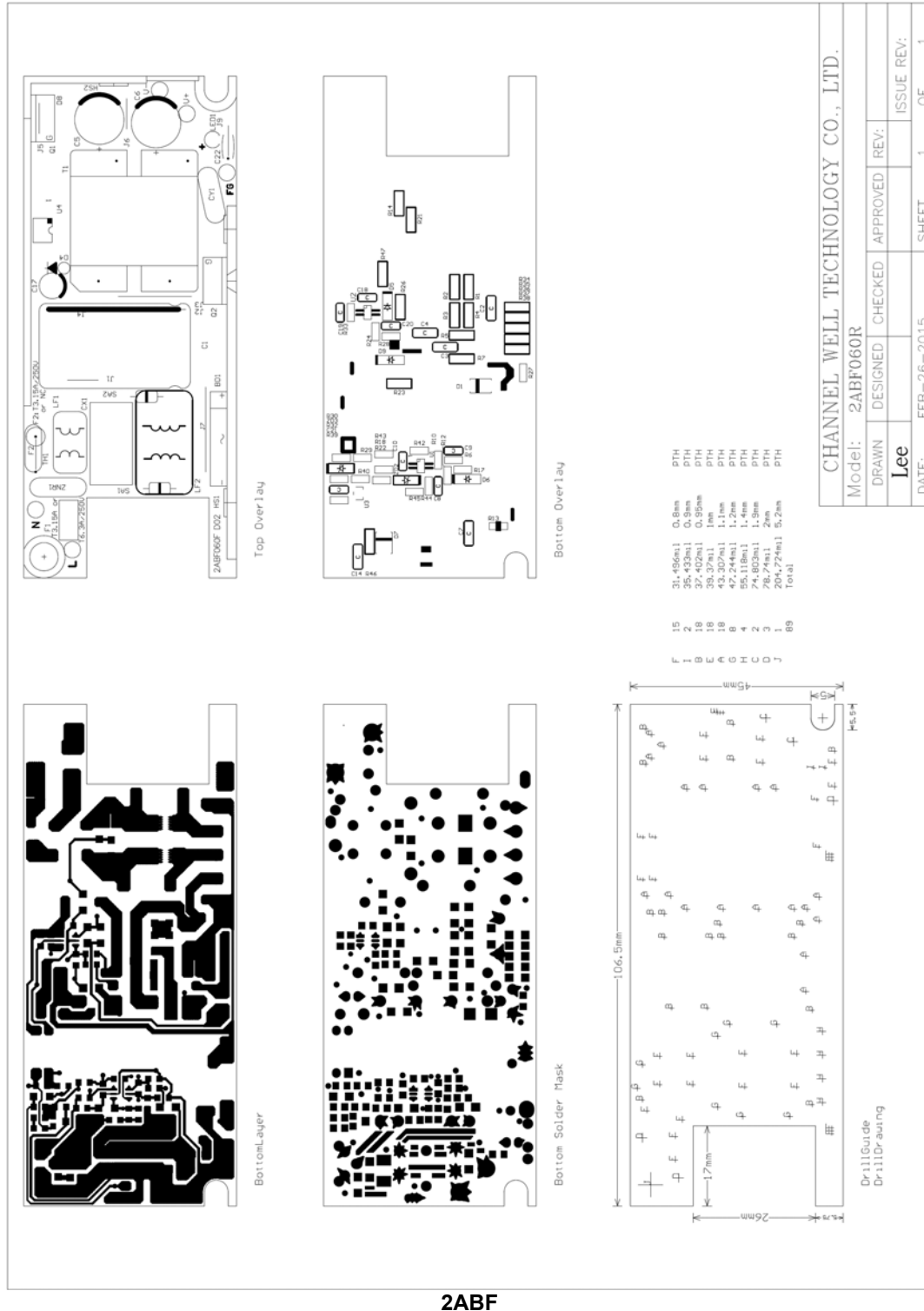
Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



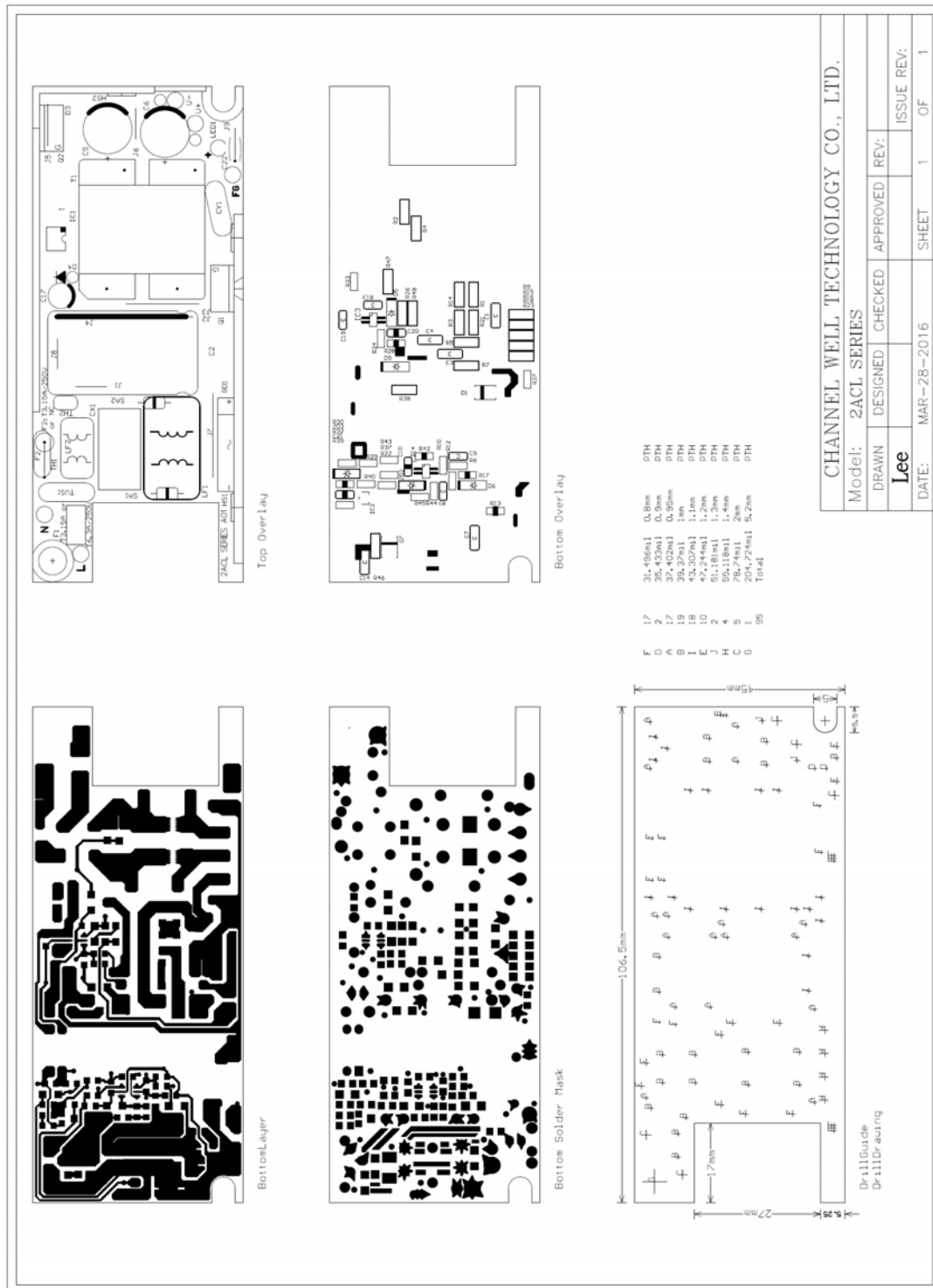
Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz,GTRxxxYzzzzz



Product: AC Adaptor

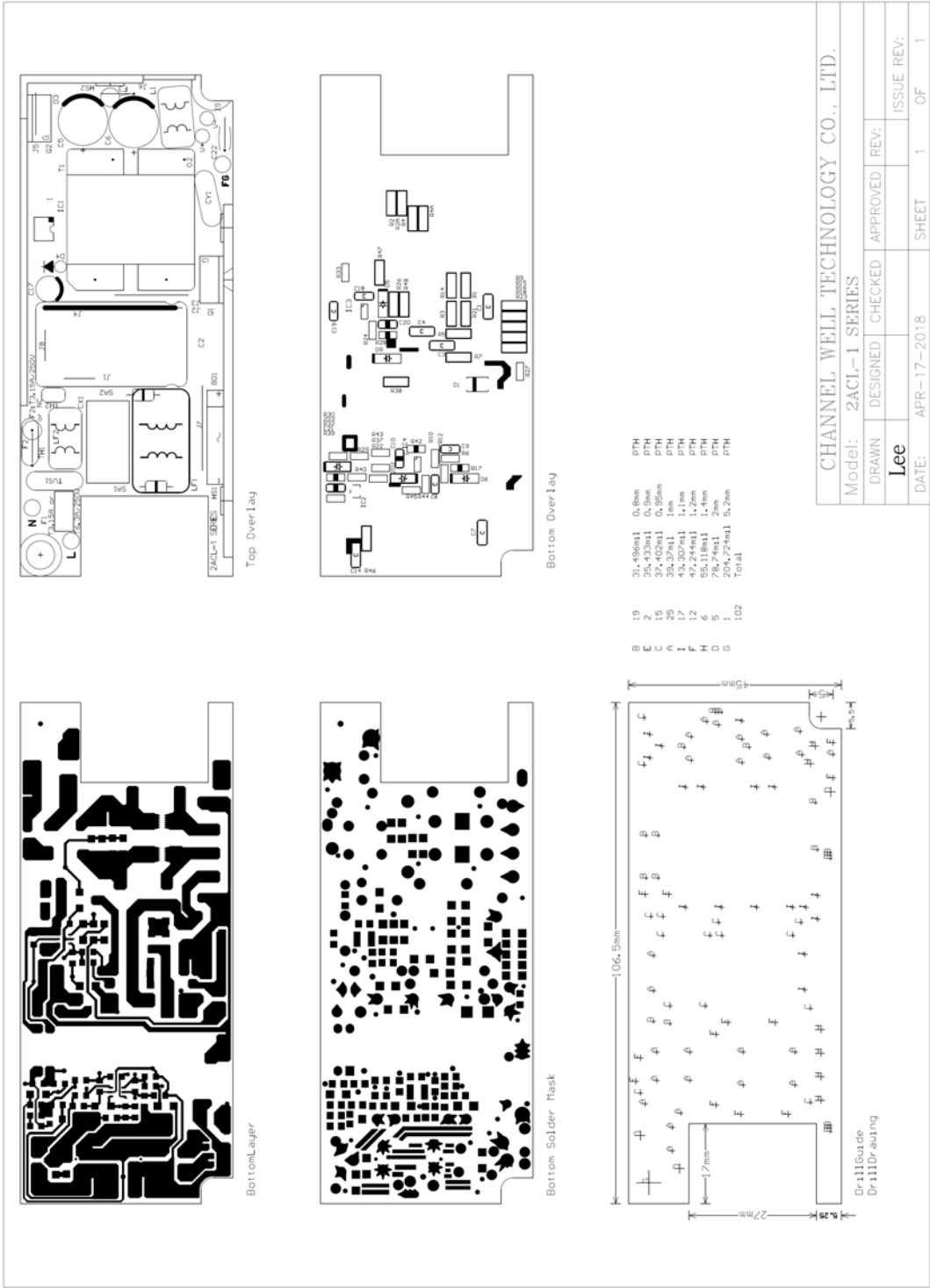
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz,GTRxxxYzzzzz



2ACL (except Y=B)

Product: AC Adaptor

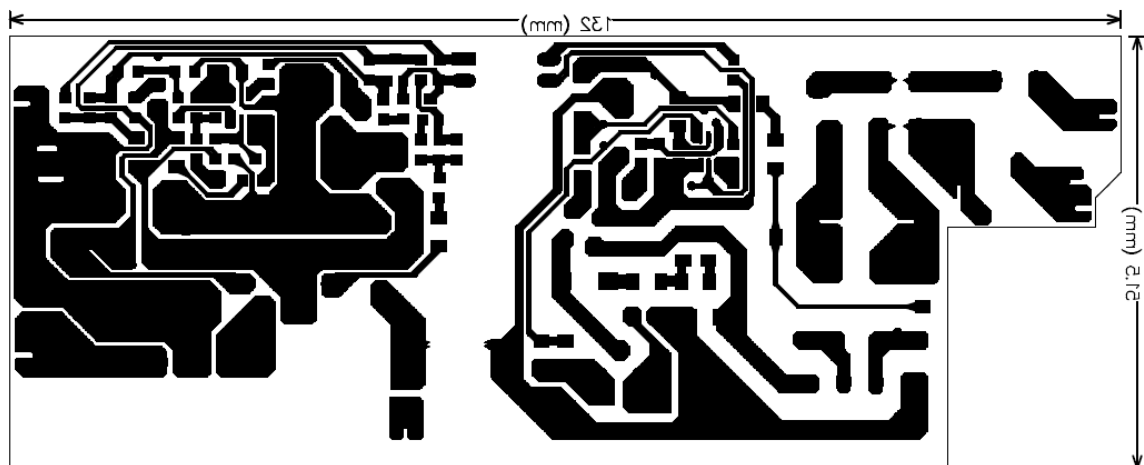
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz,GTRxxxYzzzzz



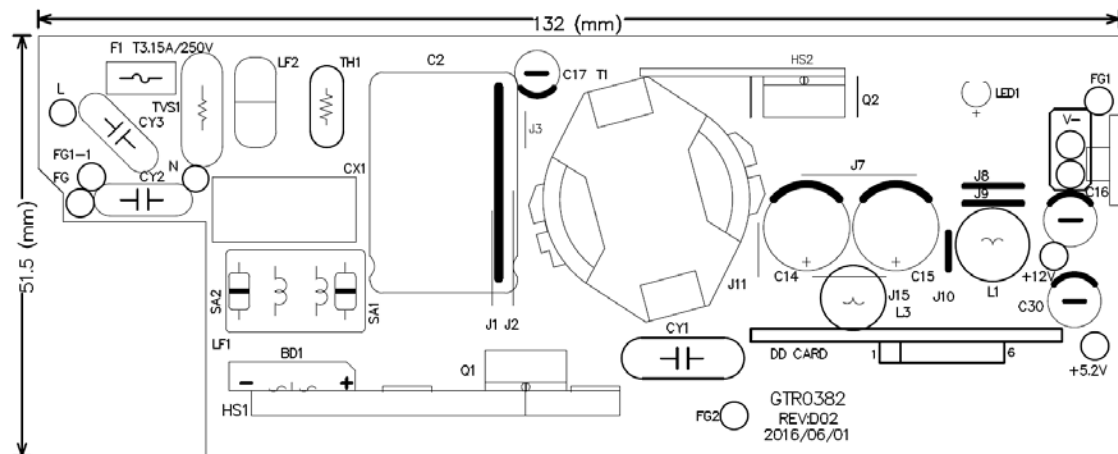
2ACL (except Y=B) (add R2A, R4A, F3, L1) (Alternative)

Product: AC Adaptor

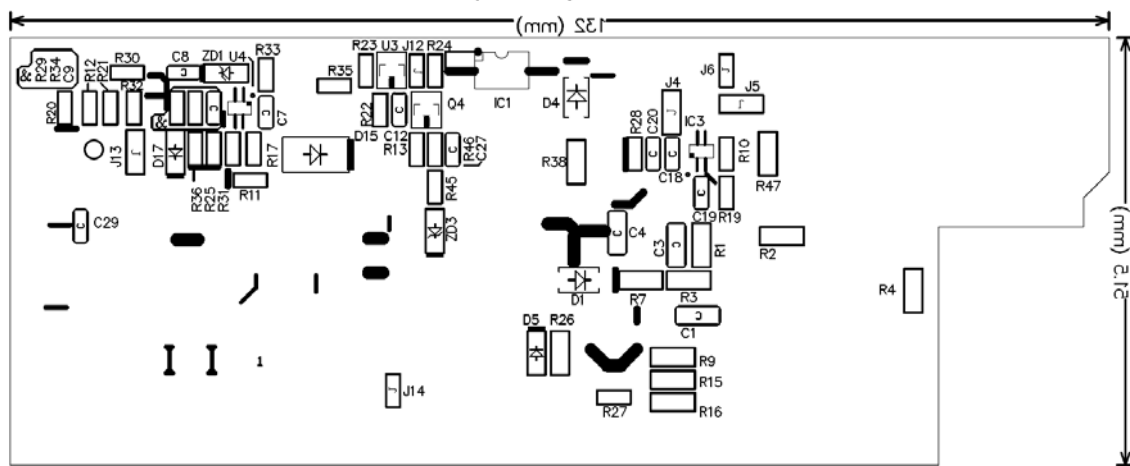
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz,GTRxxxYzzzzz



Bottom Layer



Top Overlay

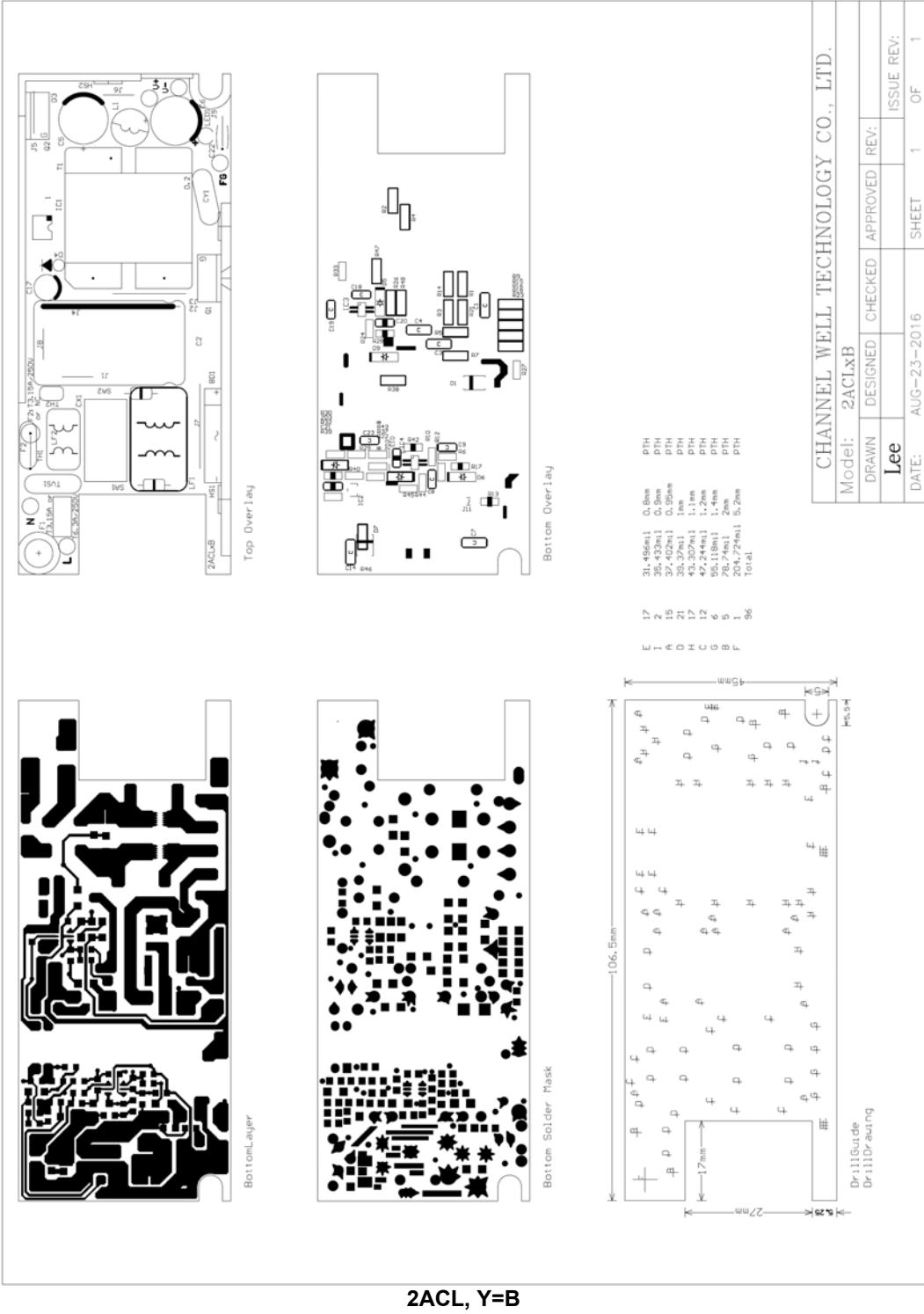


Bottom Overlay

GTRxxxYzzzzz

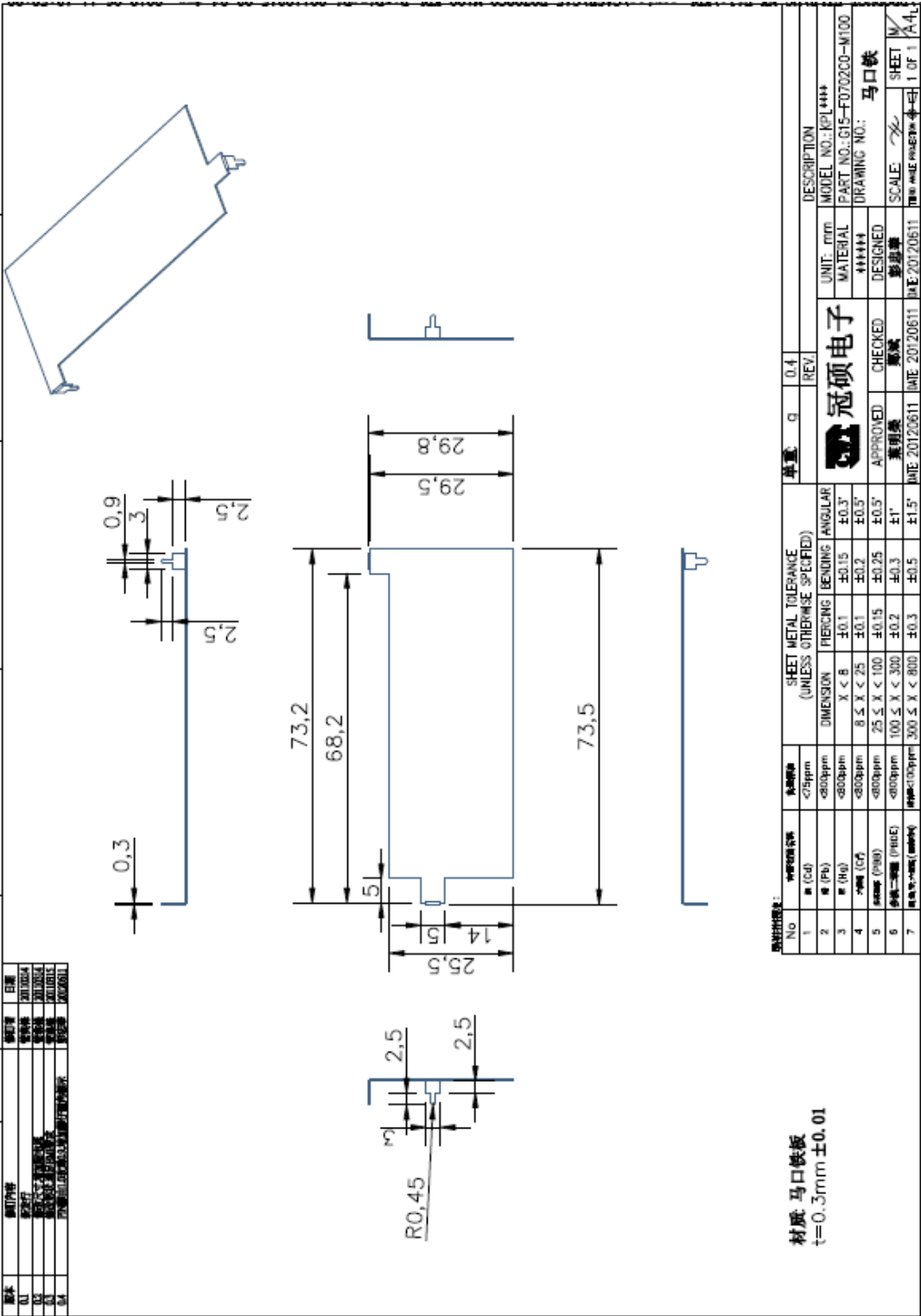
Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz,GTRxxxYzzzzz



Product: AC Adaptor

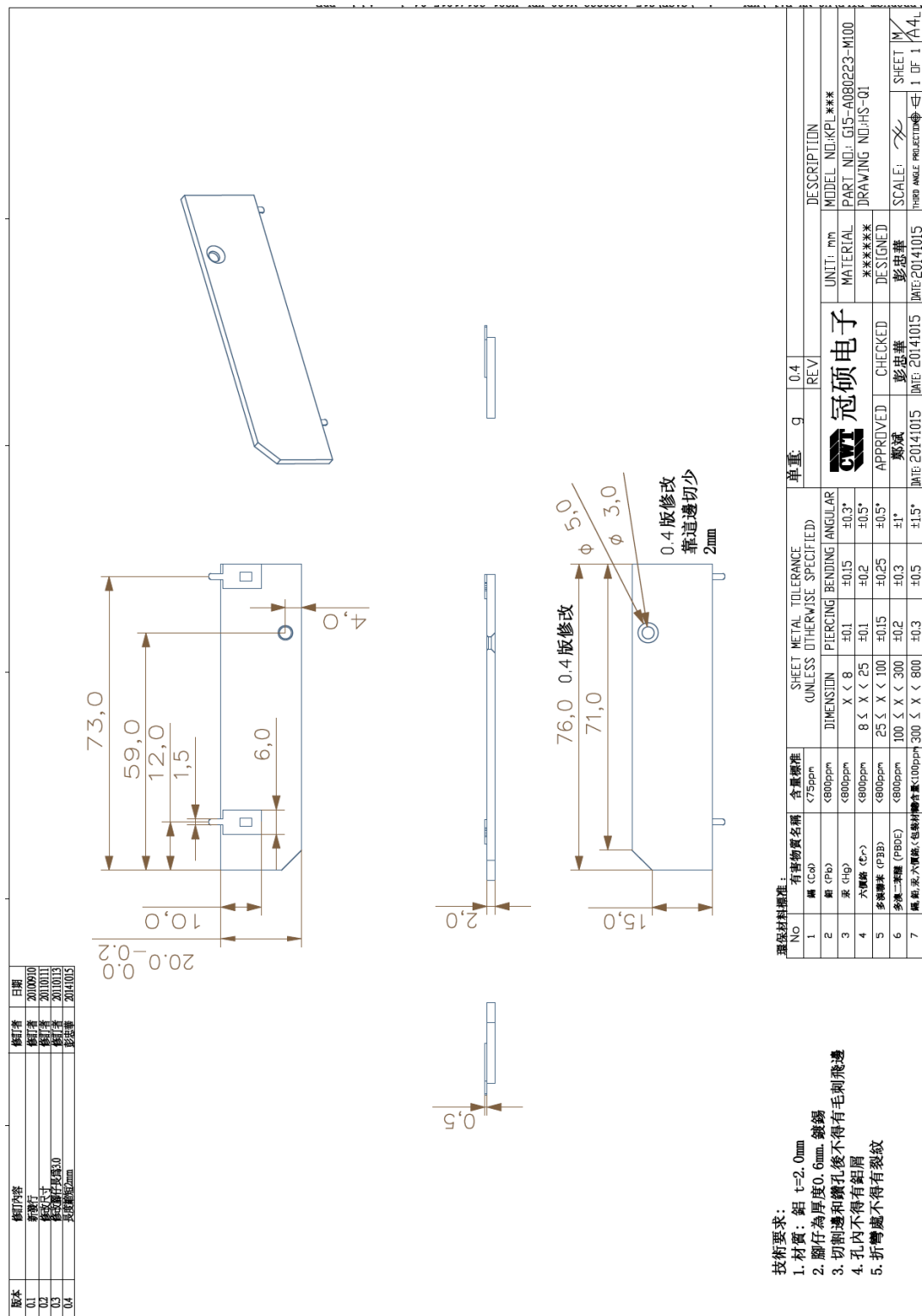
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



EMI Shielding Plate for KPL PCB with fuse: FUSE1

Product: AC Adaptor

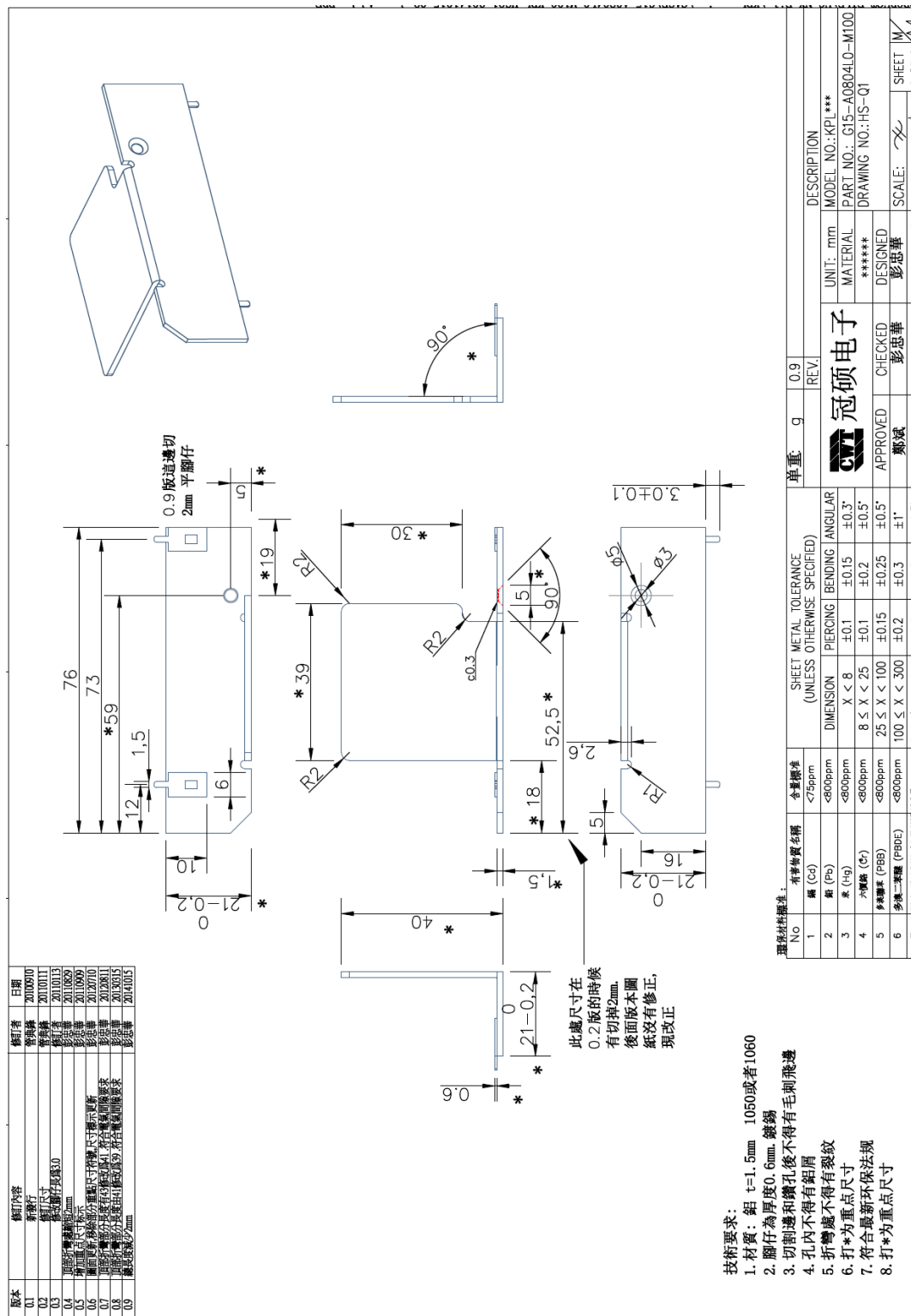
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



Q1 Heatsink (for KPL all models except x=65, 66; y=F)

Product: AC Adaptor

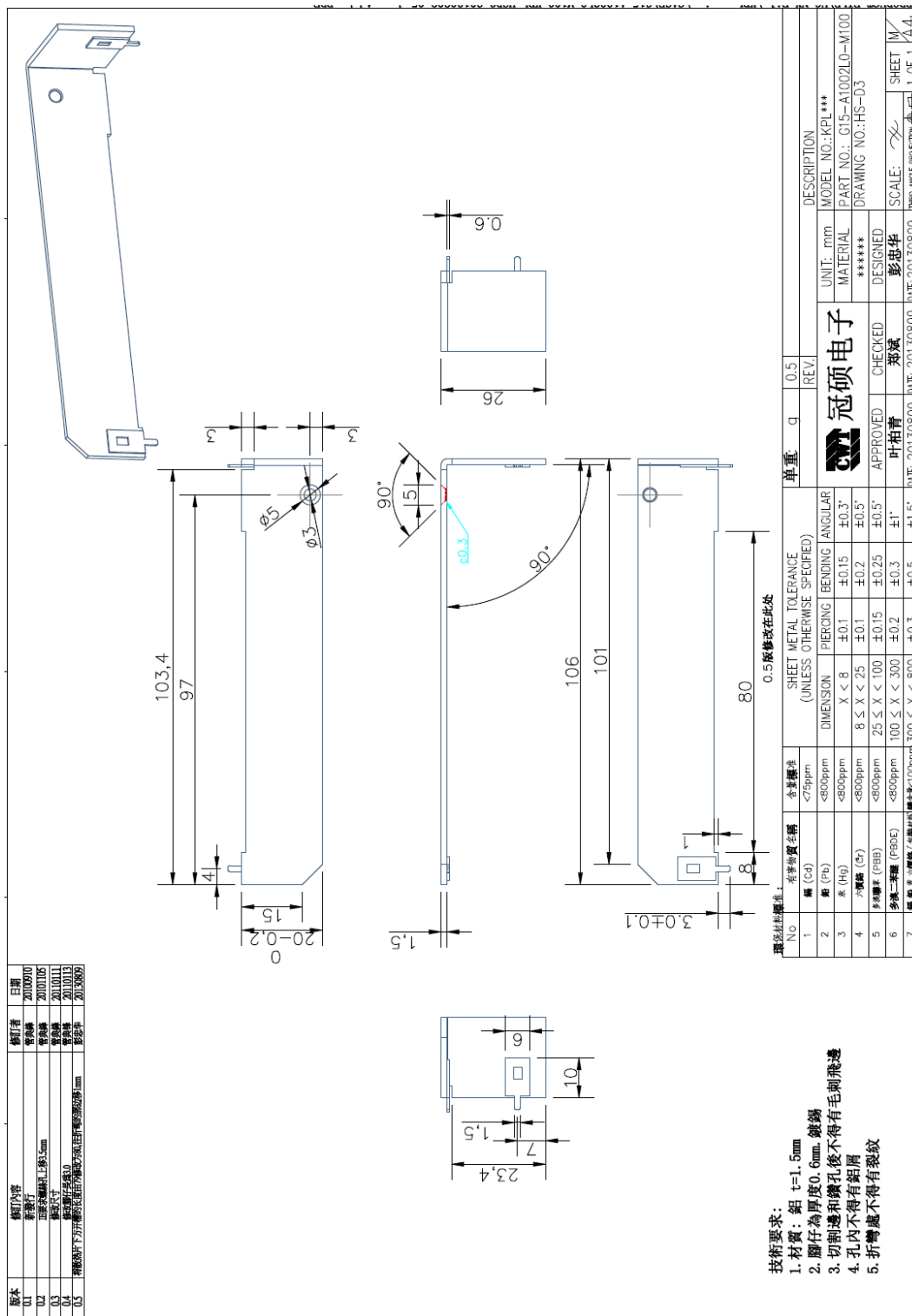
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



Q1 Heatsink (KPL for models x=65, 66; y=F)

Product: AC Adaptor

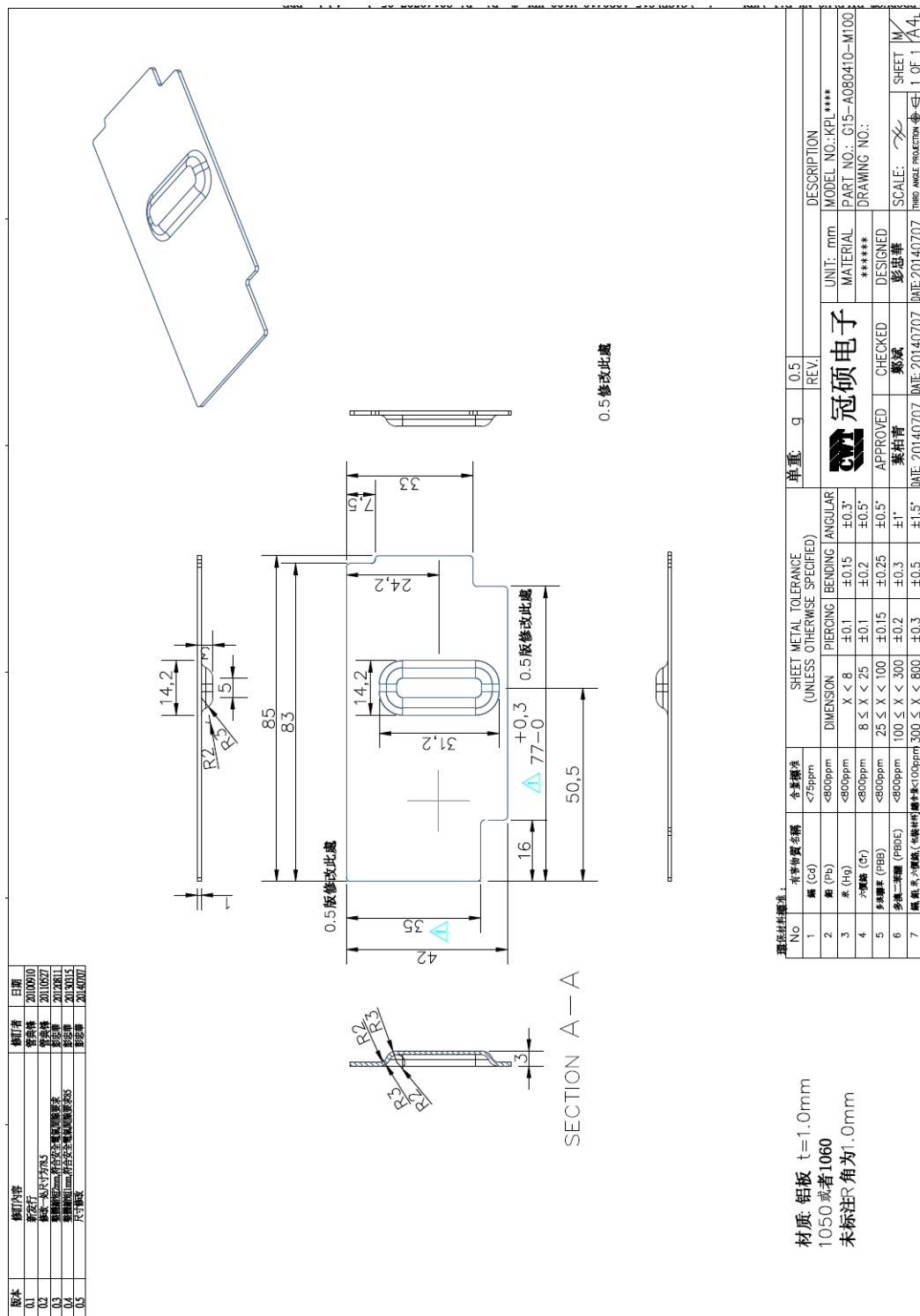
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



D3 Heatsink for KPL PCB with fuse: FUSE1

Product: AC Adaptor

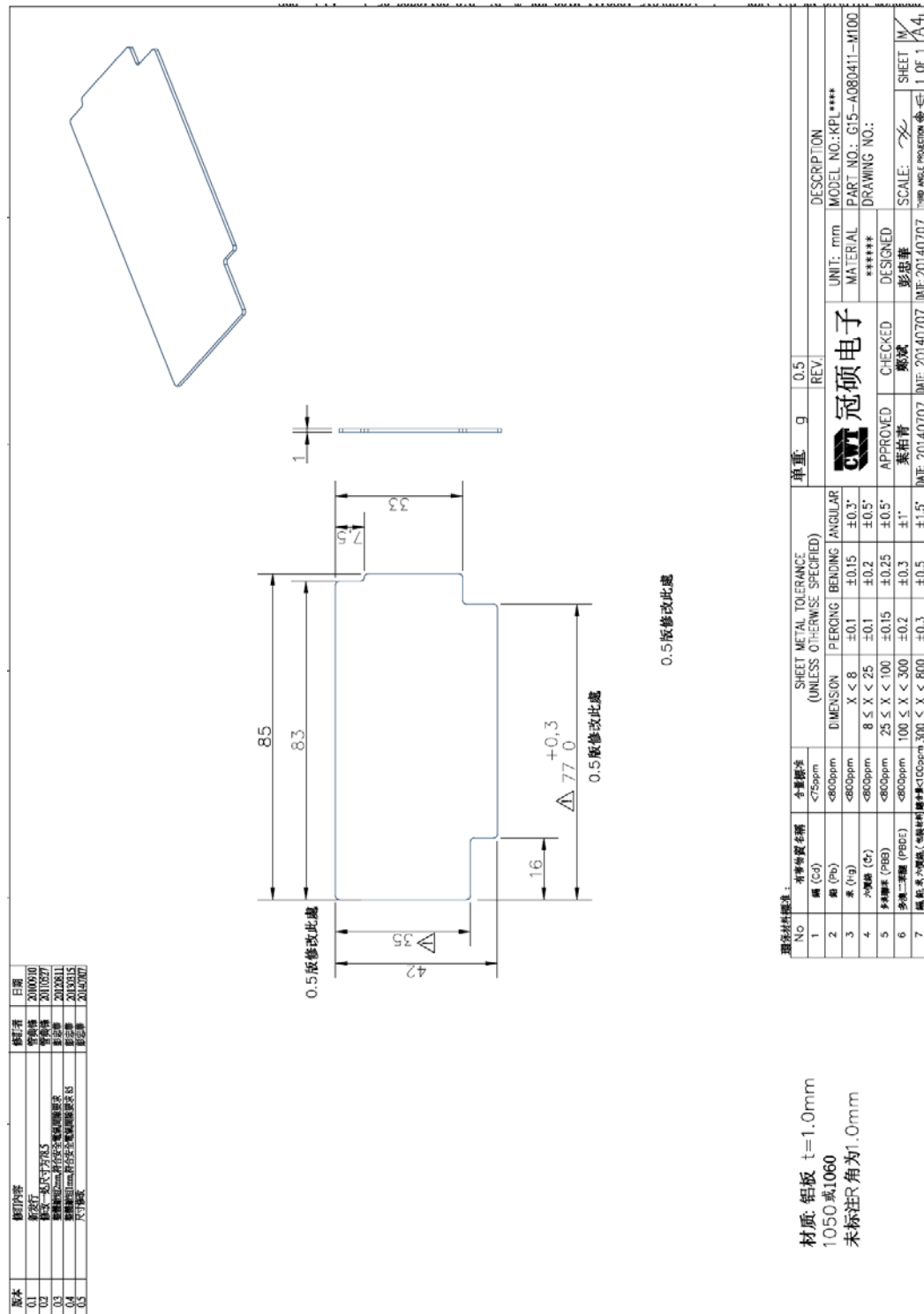
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



Top Heatsink for KPL PCB with fuse: FUSE1
For x=60, 65; y=all except x=65; y=F

Product: AC Adaptor

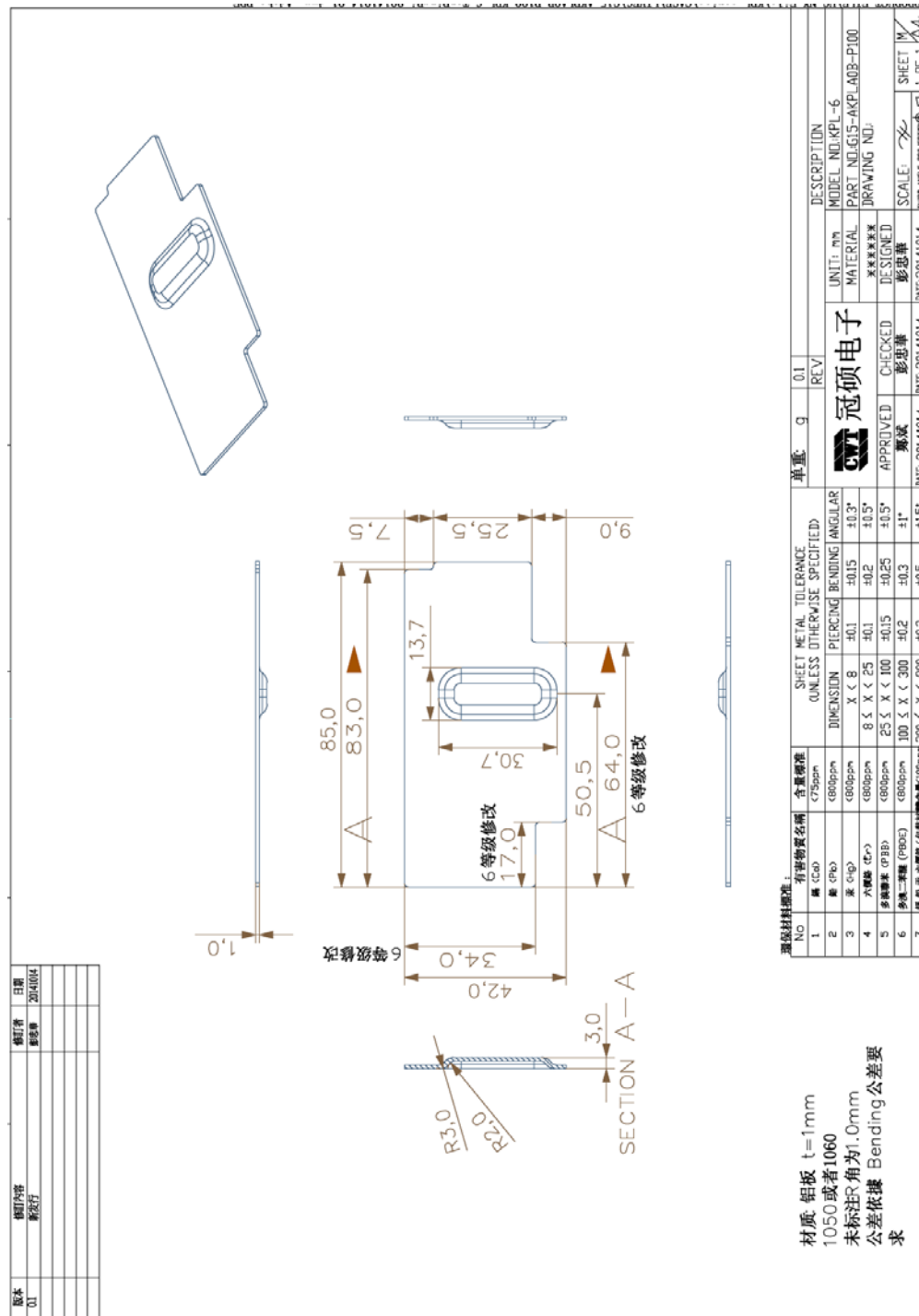
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



Top Heatsink for KPL PCB with fuse: FUSE1
For x=65; y= F

Product: AC Adaptor

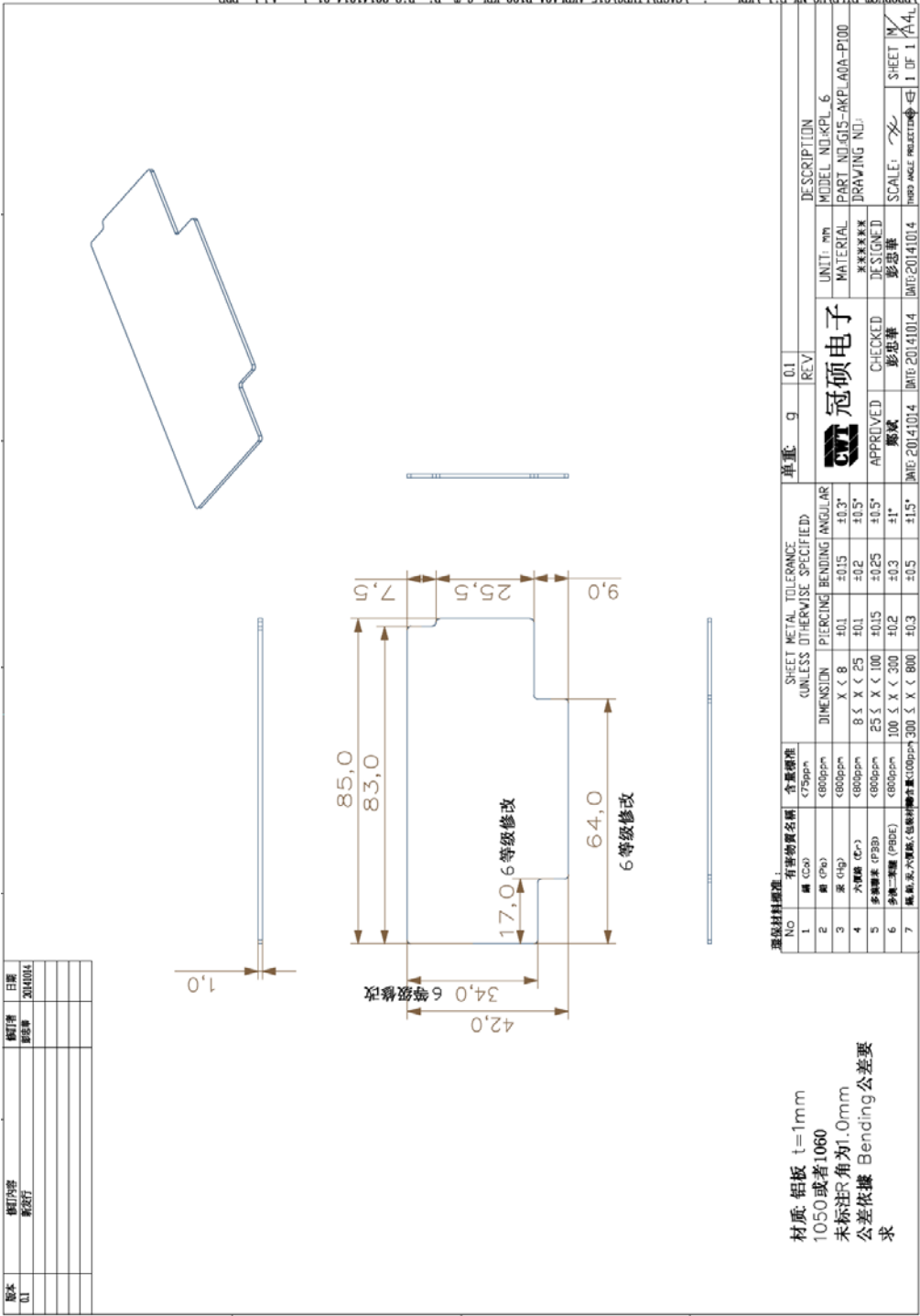
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



Top Heatsink for KPL PCB with fuses: F1, F2
For x=60, 65; y=all except x=65, y=F

Product: AC Adaptor

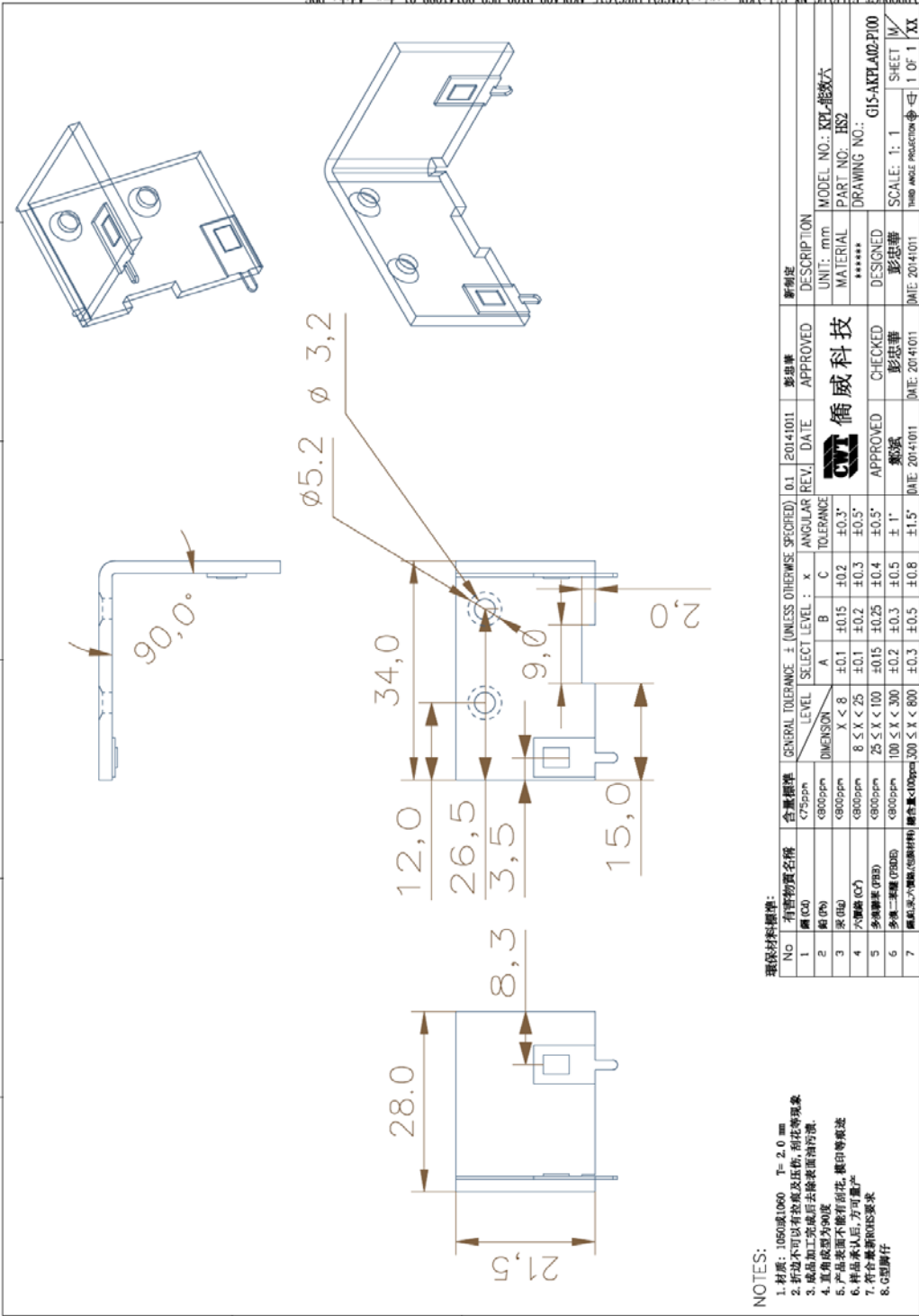
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



Top Heatsink for KPL PCB with fuses: F1, F2
For x=65, 66; y= F

Product: AC Adaptor

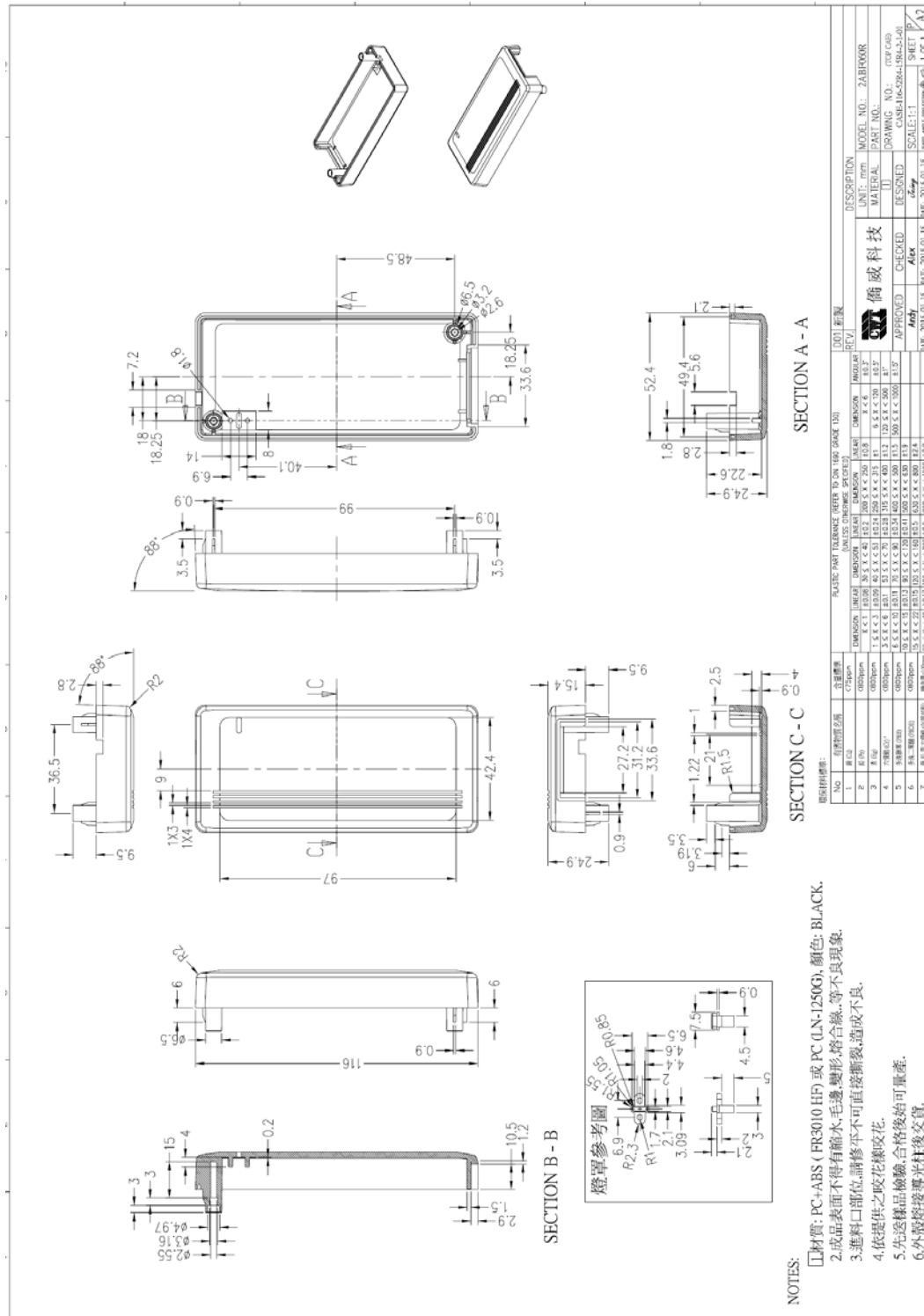
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



D3, D6 Heatsink for KPL PCB with fuses: F1, F2

Product: AC Adaptor

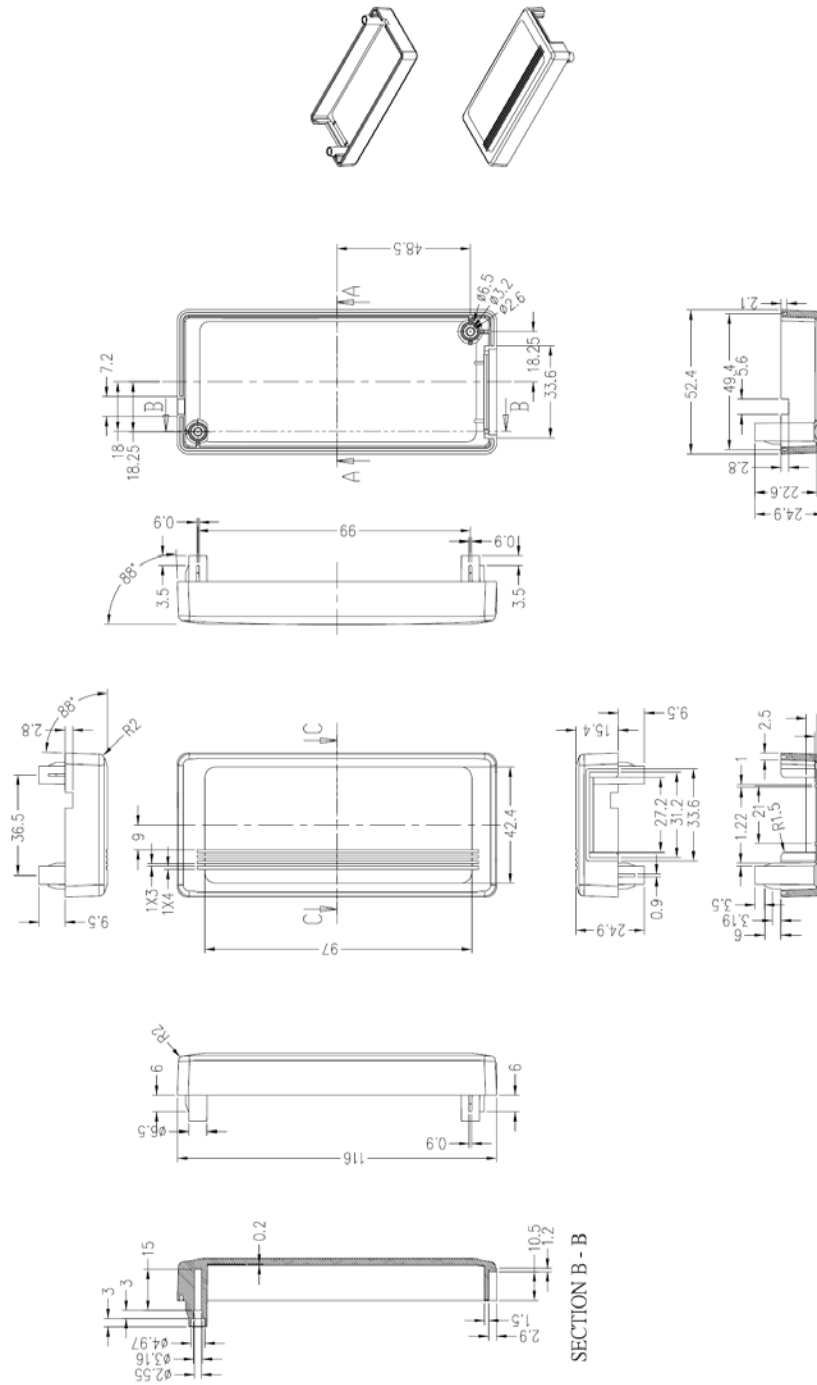
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



Top Case with LDE for 2ABF & 2ACL

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



NOTES:

□材質: PC+ABS (FR3010 HF) 或 PC (IN-1250G), 顏色: BLACK.

2. 成品表面不得有縮水,毛邊,變形,熔合線,等不良現象。

3.進料口部位,請修平不可直接撕裂,造成不良,

4. 依提供之咬花樣咬花。

5. 先送樣品檢驗,合格後始可量產。

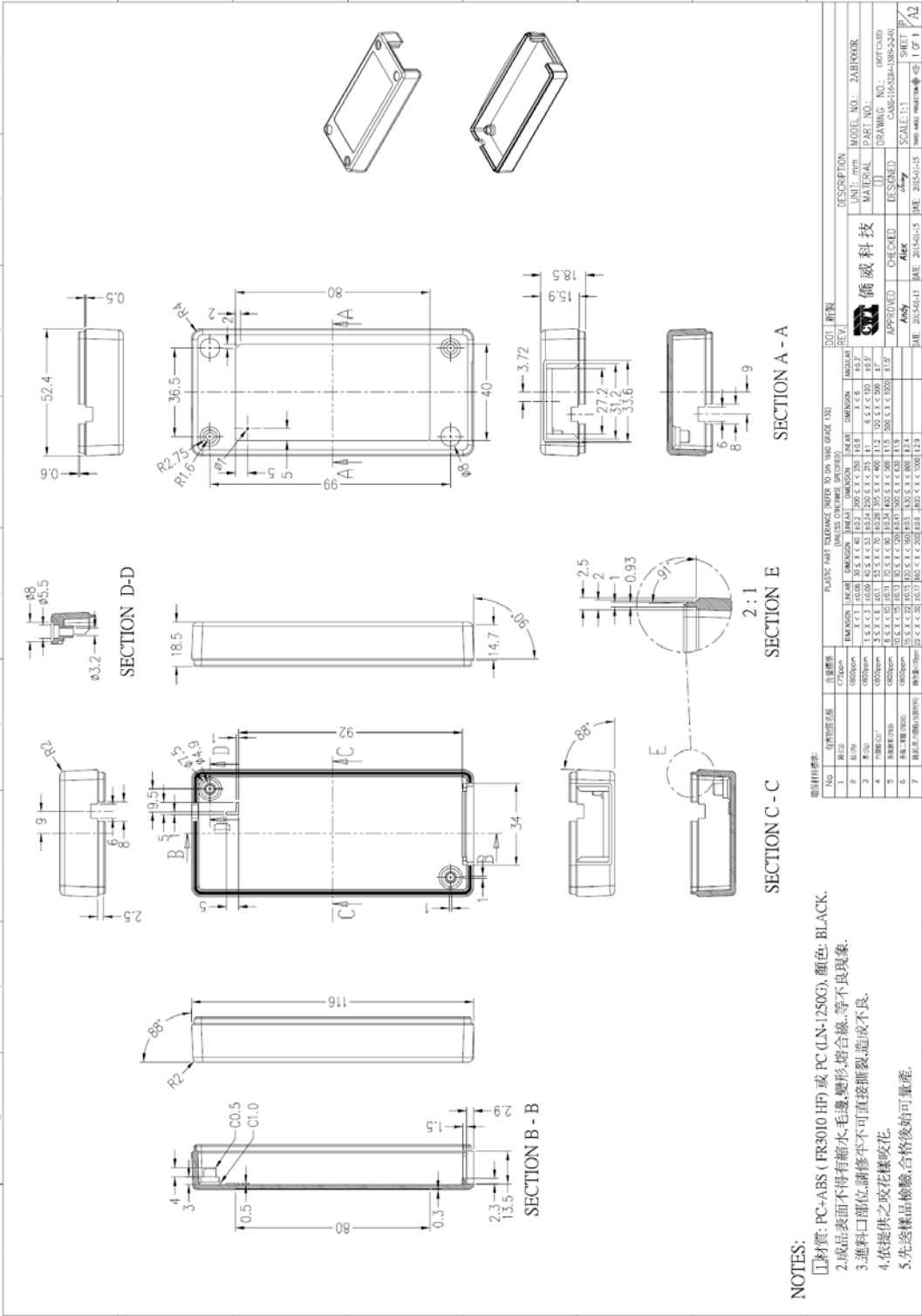
6. 外殼熔接導光柱後交貨。

物料名称:		001 料型		REV		DESCRIPTION	
No	物料名称	PLASTIC PART TOLERANCE (REFER TO DIN 16260 PAGE 120)		DIM (ISO CONFORMS: ASYMETRIC)		UNIT: mm	
1	料(料)	K-CNC	30.5 ± 0.4	10.2 ± 0.05	10.2 ± 0.05	10.2 ± 0.05	MODEL NO.: ZABEYZE
2	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	MATERIAL: 7050 AL
3	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DRAWING NO.: 0200-001
4	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DESIGN: 01
5	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	APPROVED: 01
6	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	SCALE: 1:1
7	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
8	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
9	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
10	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
11	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
12	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
13	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
14	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
15	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
16	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
17	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
18	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
19	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
20	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
21	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
22	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
23	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
24	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
25	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
26	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
27	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
28	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
29	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
30	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
31	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
32	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
33	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
34	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
35	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2014-02-26
36	料(料)	03000mm	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	DATE: 2

Top Case without LDE for 2ABF & 2ACL

Product: AC Adaptor

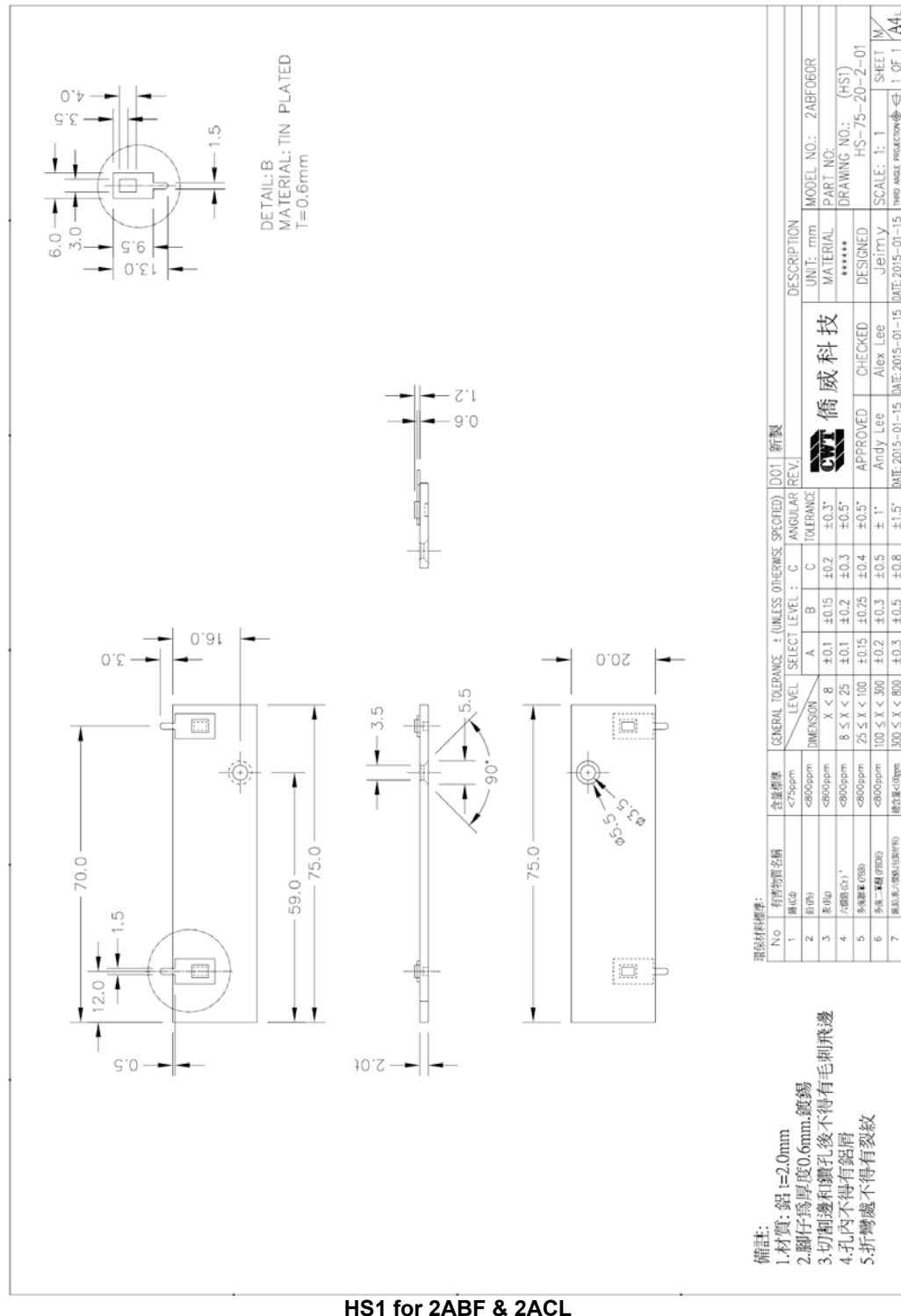
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



Bottom Case for 2ABF & 2ACL

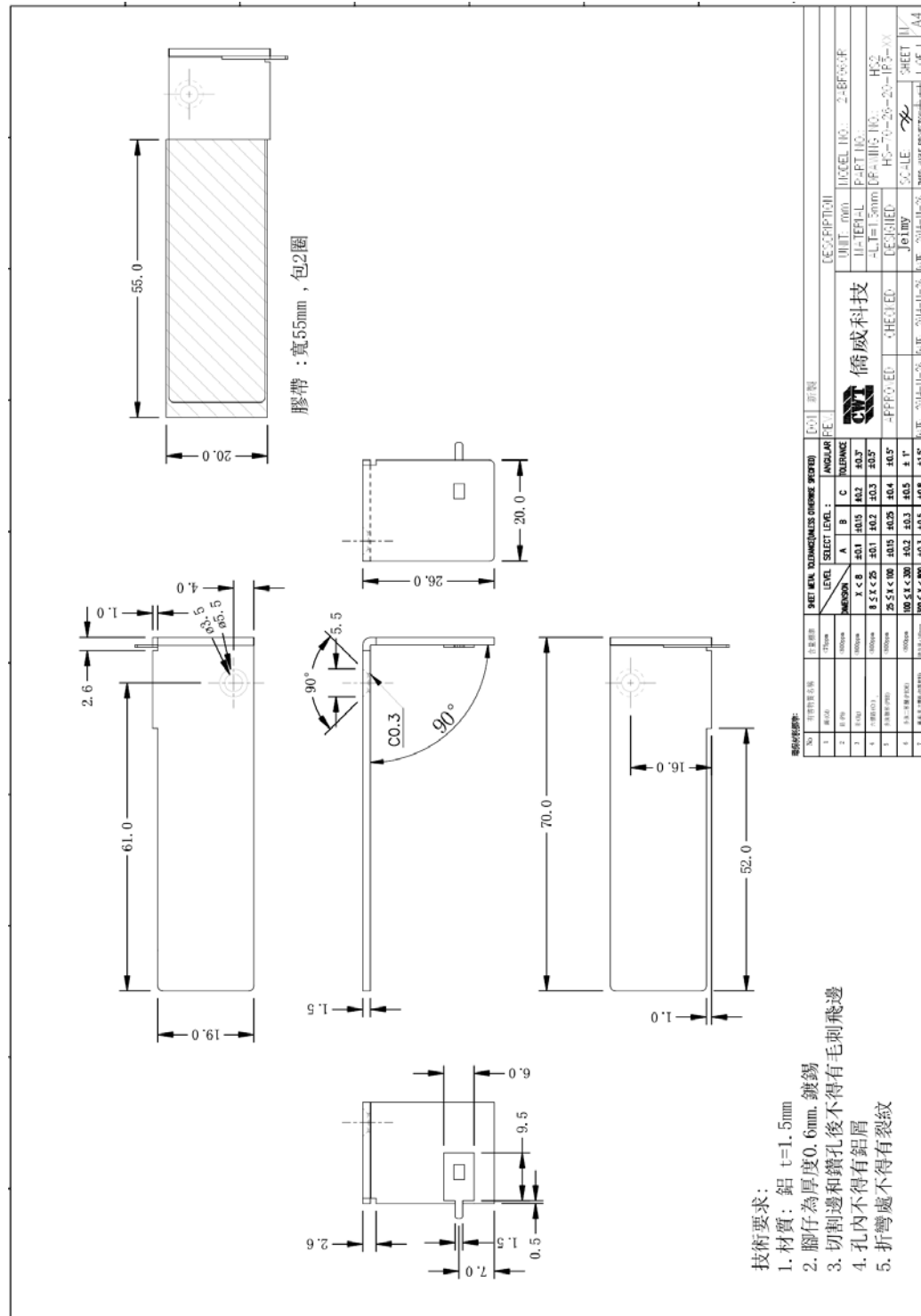
Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



Product: AC Adaptor

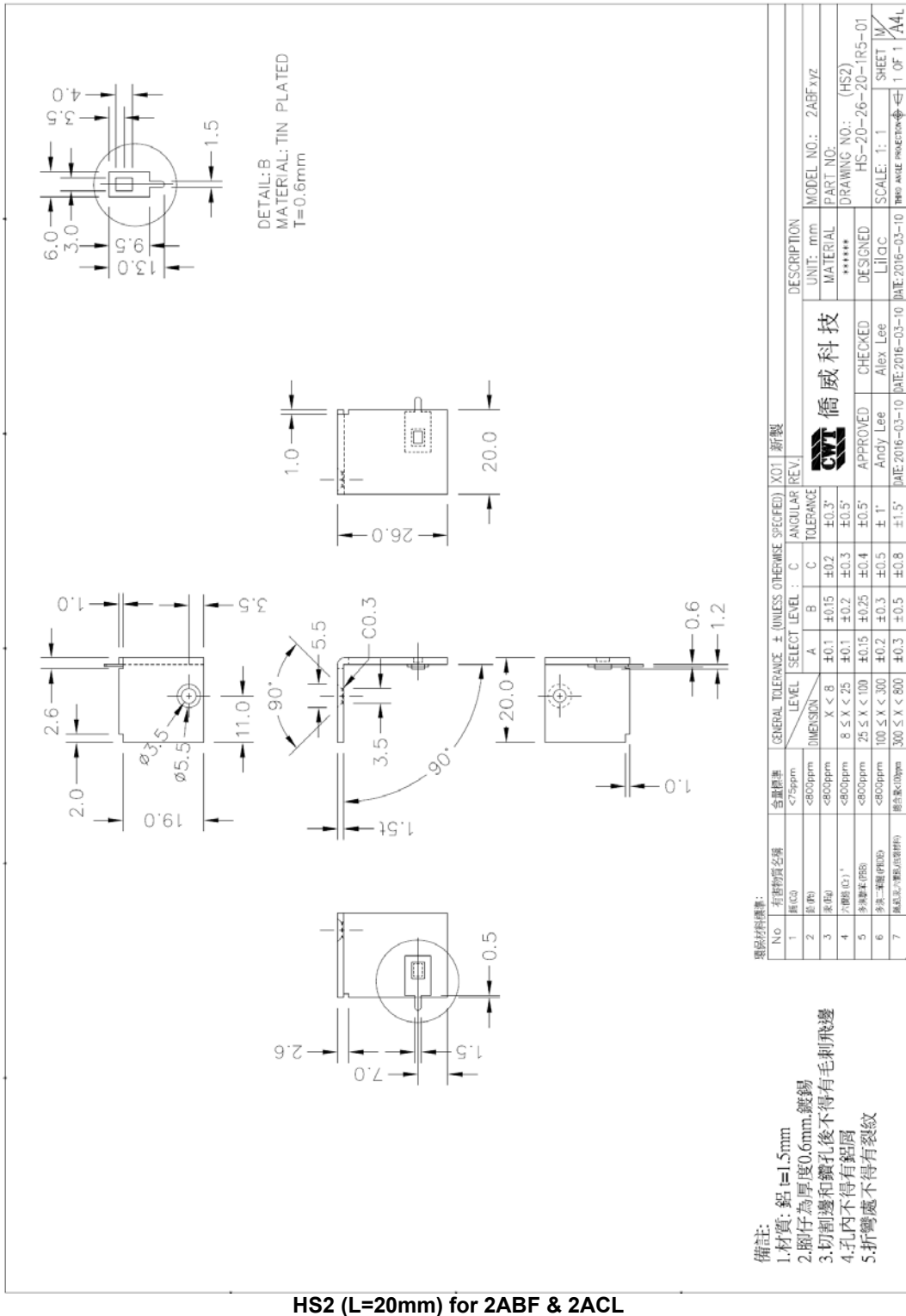
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HS2 (L=70mm) for 2ABF & 2ACL

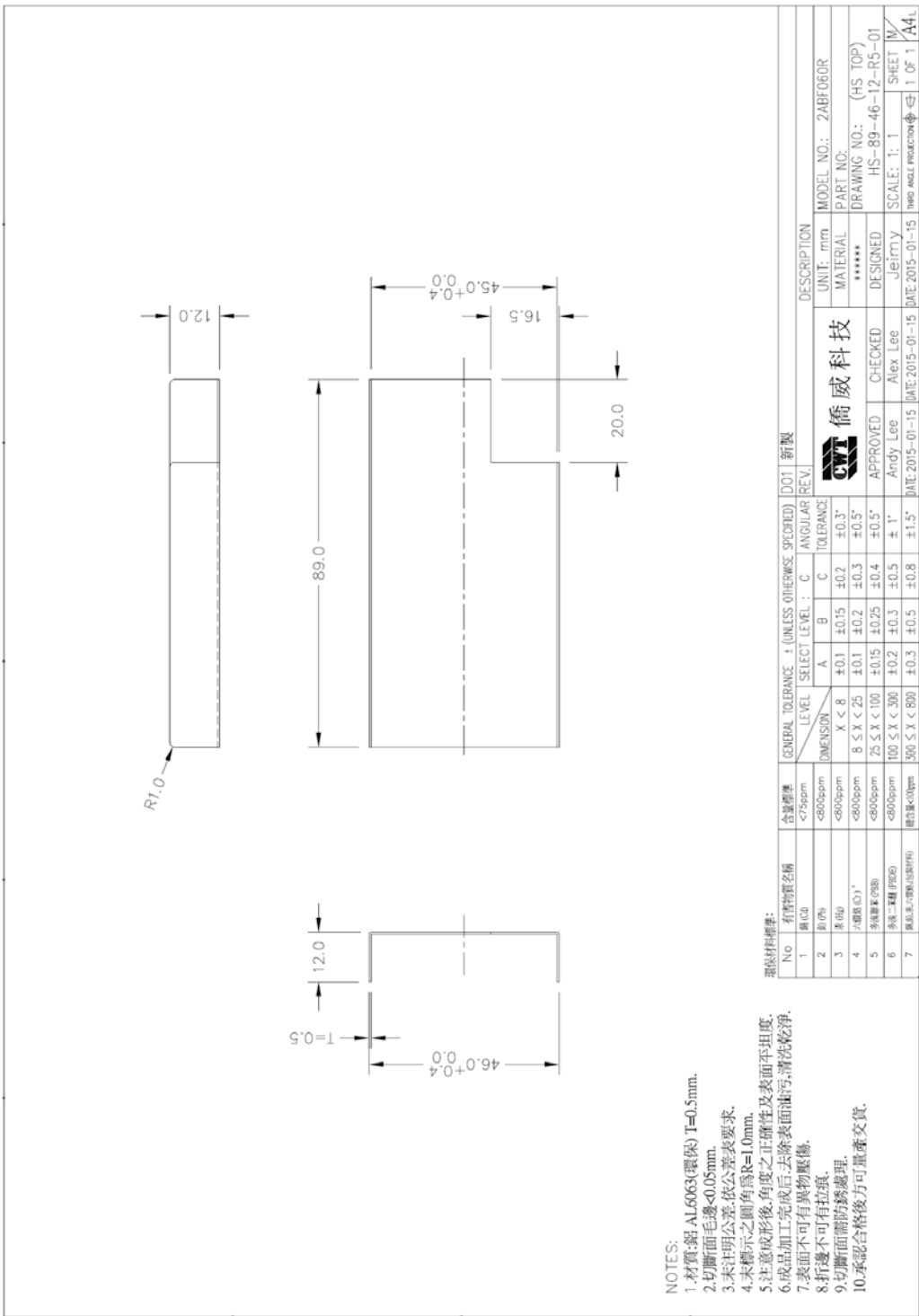
Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



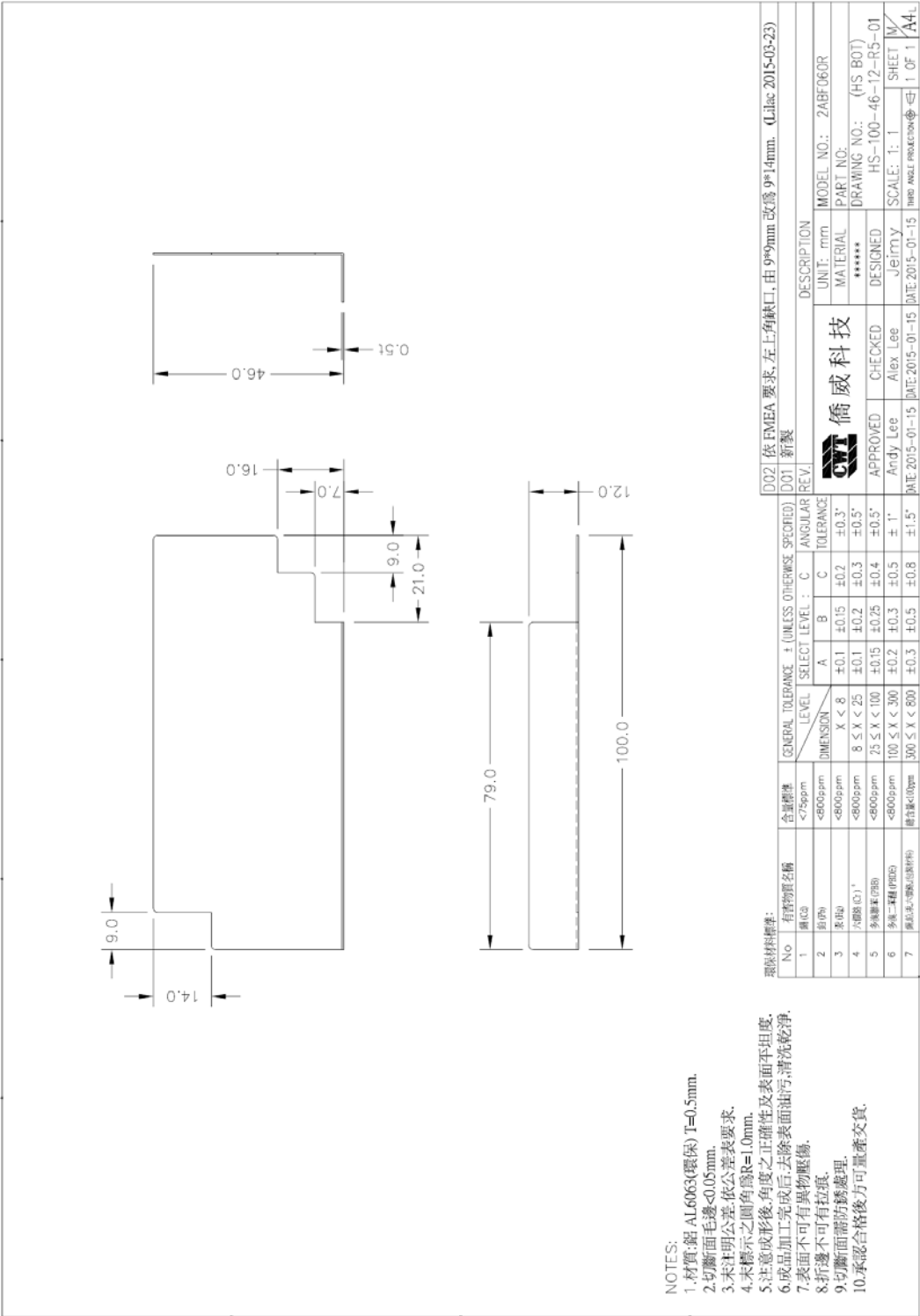
Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



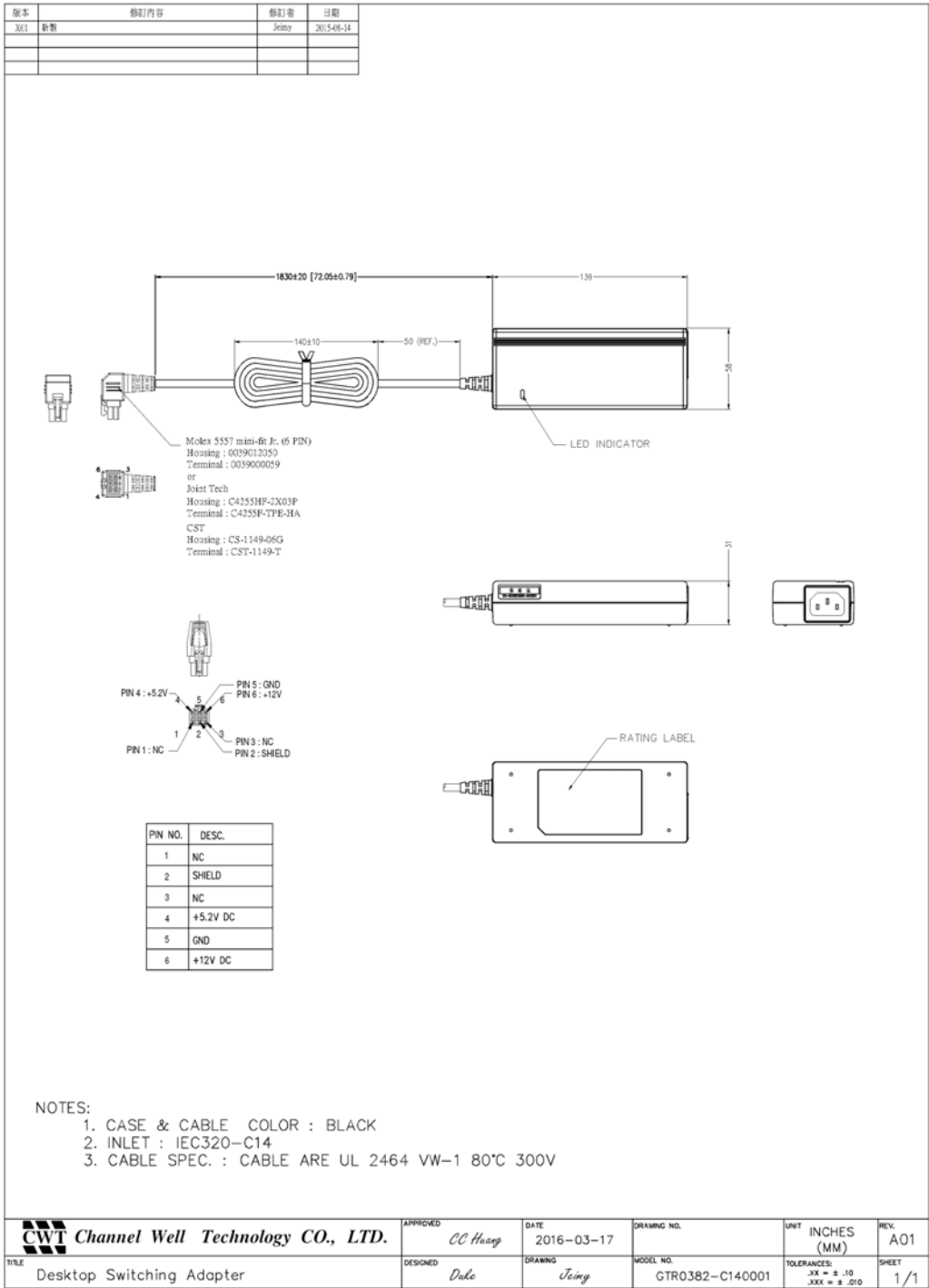
- NOTES:
1. 材質: 鋁 AL6063(環保) T=0.5mm.
 2. 切斷面毛邊<0.05mm.
 3. 未註明公差, 依公差表要求.
 4. 未標示之圓角為R=1.0mm.
 5. 注意成形後, 角度之正確性及表面平坦度.
 6. 成品加工完成後, 去餘表面油污, 清洗乾淨.
 7. 表面不可有異物壓傷.
 8. 折邊不可有拉痕.
 9. 切斷面需防銹處理.
 10. 承認合格後方可量產交貨.

環境材料標準:		合量標準		GENERAL TOLERANCE ± (UNLESS OTHERWISE SPECIFIED)		SELECT LEVEL : C		ANGULAR REV.		DESCRIPTION	
No	有標物名稱	合量標準	LEVEL	DIMENSION	A	B	C	TOLERANCE	UNIT: mm	MODEL NO.: 2ABF060R	PART NO.
1	標 (GB)	<750µm		X < 8	±0.1	±0.15	±0.2	±0.3°			
2	標 (GB)	<800µm		8 ≤ X < 25	±0.1	±0.2	±0.3	±0.5°			
3	標 (GB)	<800µm		25 ≤ X < 100	±0.15	±0.25	±0.4	±0.5°			
4	標 (GB)	<800µm		100 ≤ X < 300	±0.2	±0.3	±0.5	± 1°			
5	標 (GB)	<800µm		300 ≤ X < 800	±0.3	±0.5	±0.8	±1.5°			
6	標 (GB)	<800µm									
7	標 (GB)	<800µm									

002	依 FMEA 要求, 左上角缺口, 由 9*9mm 改為 9*14mm. (Lilac 2015-03-23)	001	新製
CWT 僑威科技			
DESIGNED: Alex Lee			
CHECKED: Alex Lee			
APPROVED: Andy Lee			
DATE: 2015-01-15			
DATE: 2015-01-15			
SHEET 1 OF 1			
THIRD ANGLE PROJECTION			

Product: AC Adaptor

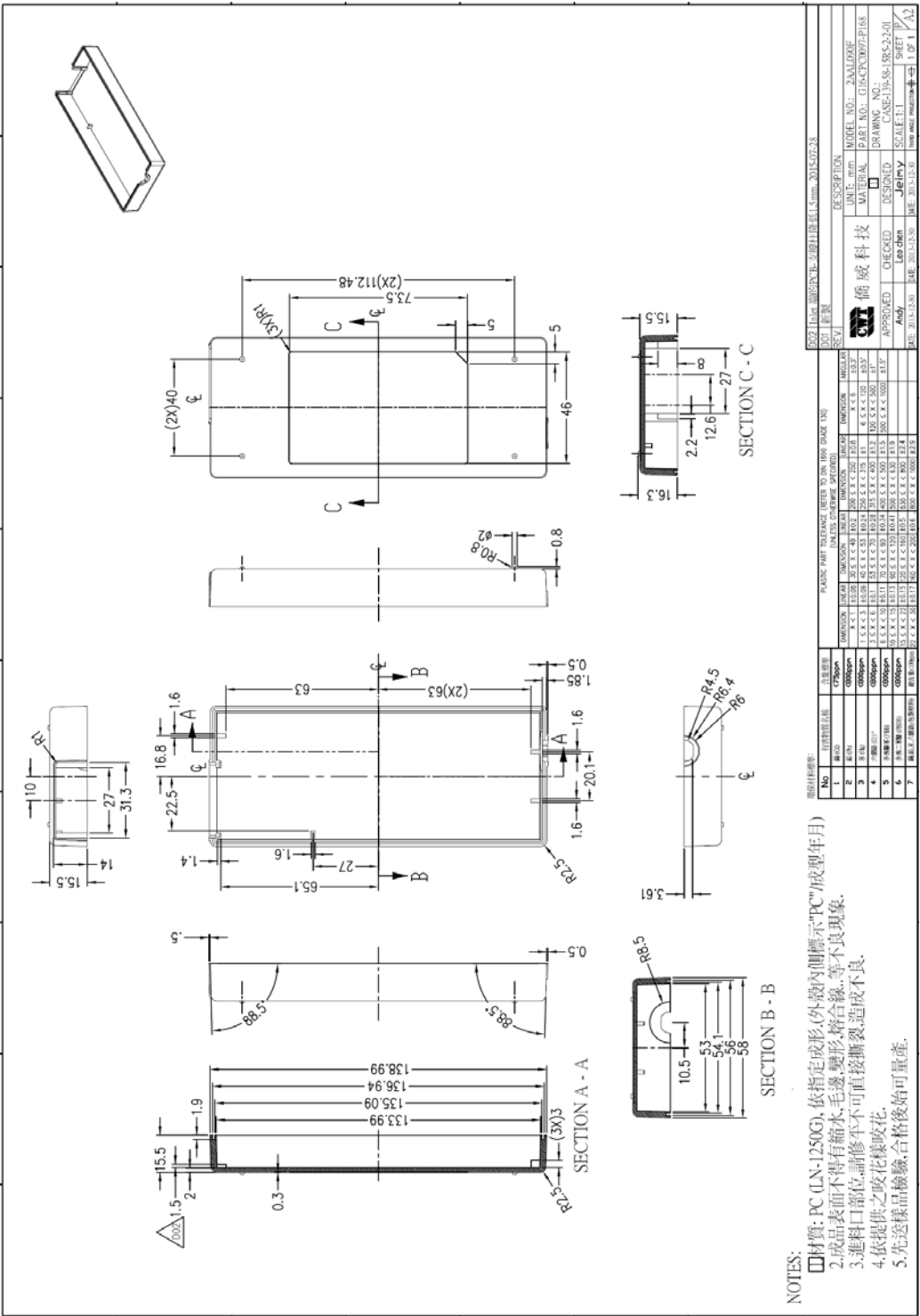
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



GTR Overall

Product: AC Adaptor

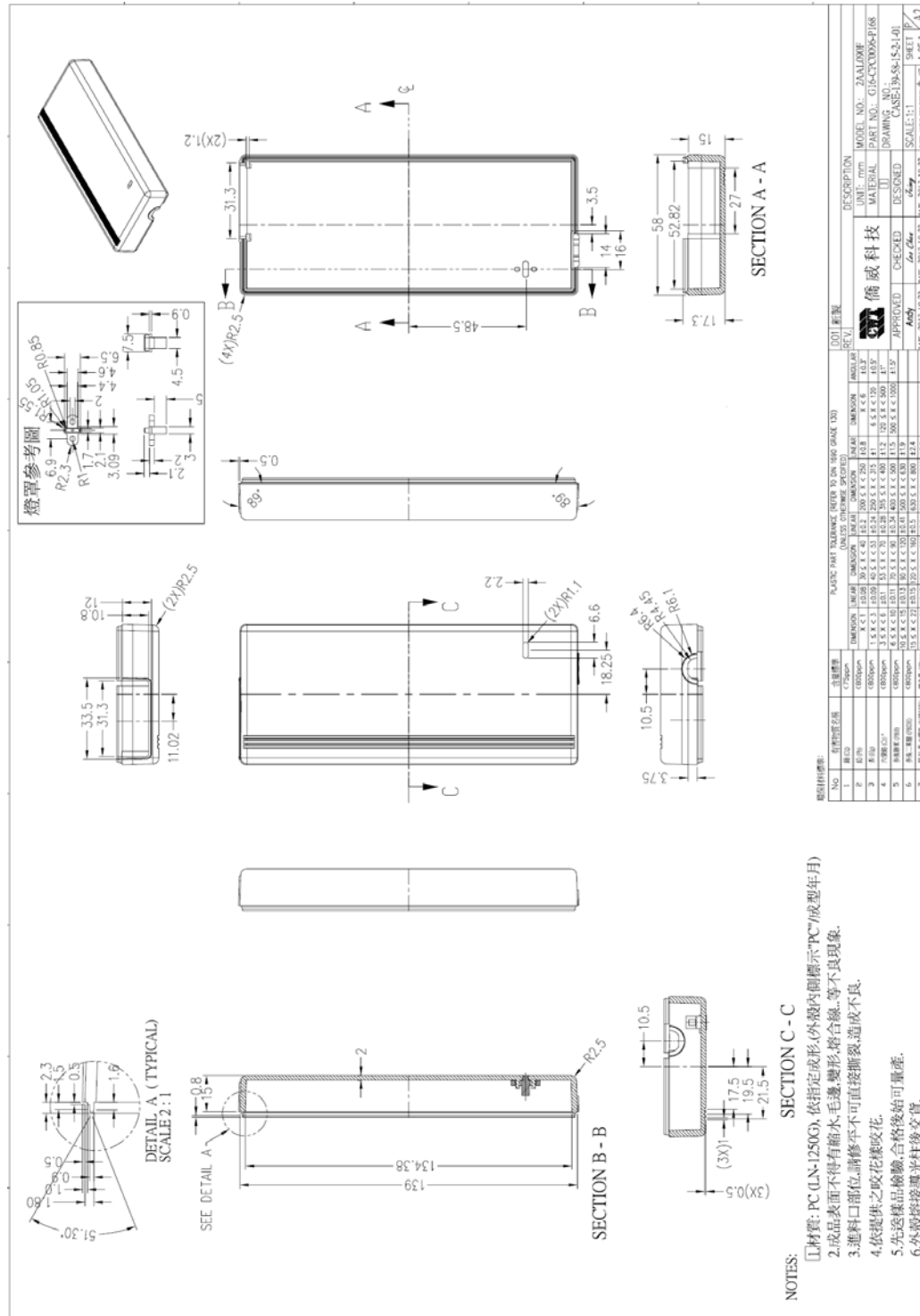
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



GTR Bottom Case

Product: AC Adaptor

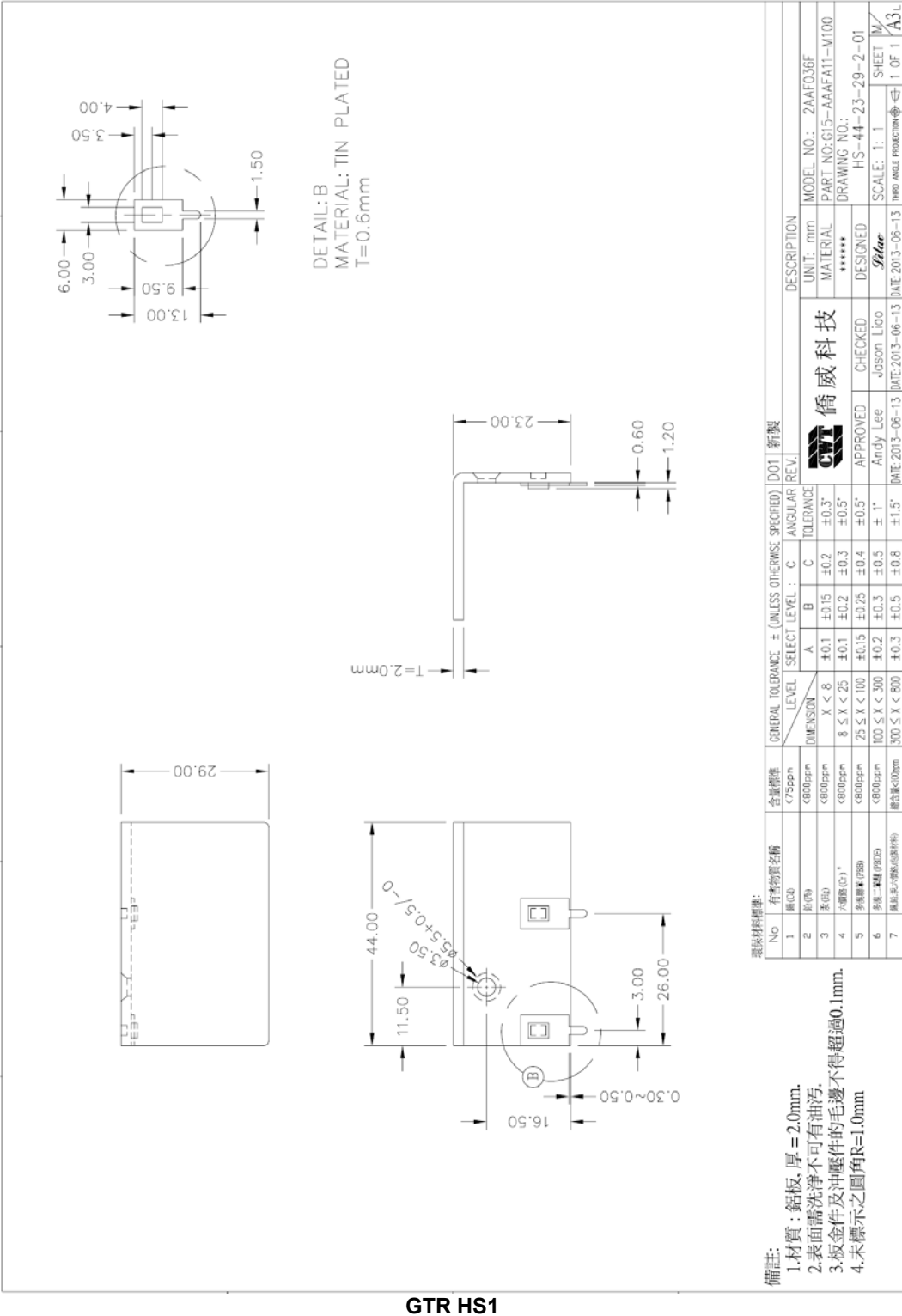
Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



GTR Top Case

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz



GTR HS1

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

		Ref. Certif. No. JPTUV-060802
IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME		SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC
CB TEST CERTIFICATE		CERTIFICAT D'ESSAI OC
Product Produit	AC ADAPTER	
Name and address of the applicant Nom et adresse du demandeur	Channel Well Technology Co., Ltd. No.222, Sec. 2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855 Taiwan	
Name and address of the manufacturer Nom et adresse du fabricant	Channel Well Technology Co., Ltd. No.222, Sec. 2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855 Taiwan	
Name and address of the factory Nom et adresse de l'usine	See additional page(s)	
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	AC input: 100-240 V, 1.7 A, 50/60 Hz, Class I DC output: refer to the test report.	
Trademark (if any) Marque de fabrique (si elle existe)	CWT	
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	N/A	
Model / Type Ref. Ref. de type	KPL-xy (x can be 040, 050, 060 or 065, denotes for output power; y can be F, G, V, H, I, W, J, K, L, N, Q, R or M, denotes for output voltage) For model differences, refer to the test report.	
Additional Information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiquées sur la 2 ^{ème} page)	IEC 60950-1:2005 + A1 + A2 National differences see test report	
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	15077081 001	
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	This CB Test Certificate is issued by the National Certification Body Ce Certificat d'essai OC est établi par l'Organisme National de Certification	
 TÜVRheinland®		TÜV Rheinland Japan Ltd. Global Technology Assessment Center 4-25-2 Kita-Yamata, Tsuzuki-ku Yokohama 224-0021 Japan Phone + 81 45 914-3888 Fax + 81 45 914-3354 Mail: info@jpn.tuv.com Web: www.tuv.com
Date: 09.01.2015	Signature: 	Dipl.-Ing. D. Loeffler

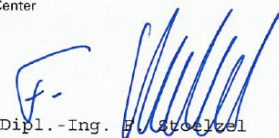
Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

	Ref. Certif. No. JPTUV-060802
PAGE 2 OF 2 1. Ningbo Iso Electronic Co., Ltd. 10, Chuang-ye Rd., The West of Ningbo Free Trade Zone Ningbo, Zhejiang P.R. China 2. Channel Well Technology (Guangzhou) Co., Ltd. Bld. B, Eastern Hi-tech Industrial Base Zengjiang Street, Zengcheng, Guangzhou, Guangdong 511300, P.R. China	
Additional information (if necessary) Information complémentaire (si nécessaire) Report Ref. No.: 15077081 001  Dipl.-Ing. D. Loeffler Date: 09.01.2015	

Product: AC Adaptor

Type Designation: KPL-xy, KPL-xy-VI, 2ABFxxxYzzzzz, and 2ACLxxxYzzzzz, GTRxxxYzzzzz

		Ref. Certif. No. JPTUV-062176
IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME		SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC
CB TEST CERTIFICATE		CERTIFICAT D'ESSAI OC
Product Produit	AC Adapter	
Name and address of the applicant Nom et adresse du demandeur	Channel Well Technology Co., Ltd. No.222, Sec. 2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855 Taiwan	
Name and address of the manufacturer Nom et adresse du fabricant	Channel Well Technology Co., Ltd. No.222, Sec. 2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855 Taiwan	
Name and address of the factory Nom et adresse de l'usine	Channel Well Technology (Guangzhou) Co., Ltd. Bld. B, Eastern Hi-tech Industrial Base, Zengjiang Street, Zengcheng, Guangzhou, Guangdong 511300, P.R. China	
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Input: AC 100-240V; 1.7A; 50/60Hz, Class I Output: refer to the test report	
Trademark (if any) Marque de fabrique (si elle existe)	CWT	
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	N/A	
Model / Type Ref. Ref. de type	2ABFxxxYzzzzz (xxx=048, 060 or 065; Y=F or R; z=0-9, A-Z, hyphen or blank)	
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2 ^{ème} page)	For model differences, refer to the test report	
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1:2005 + A1 + A2 National differences see test report	
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	11040445 001	
This CB Test Certificate is issued by the National Certification Body Ce Certificat d'essai OC est établi par l'Organisme National de Certification		
 TÜVRheinland®		TÜV Rheinland Japan Ltd. Global Technology Assessment Center 4-25-2 Kita-Yamata, Tsuzuki-ku Yokohama 224-0021 Japan Phone + 81 45 914-3888 Fax + 81 45 914-3354 Mail: info@jpn.tuv.com Web: www.tuv.com
Date: 25.03.2015	Signature:	 Dipl.-Ing. G. Groetzzel