UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Listing
CCN:	QQGQ, QQGQ7 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	ITE POWER SUPPLY
Model:	GT-83080-WW05-USB-W2, WW is the standard output wattage, with a maximum value of "05"
Rating:	I/P : 100-240 Vac, 50/60 Hz, 0.2 A O/P: 5 Vdc, Max. 1.0 A
Applicant Name and Address:	GLOBTEK (HONG KONG) LTD UNIT 1402, BENSON TOWER 74 HUNG TO RD KWUN TONG KOWLOON HONG KONG

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared by: Kyle Lin Reviewed by: Stanley Tsai

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.

ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.

iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

Electrical components are mounted on PWB, housed in plastic enclosure by ultrasonic welding.

Model Differences

All models are identical expect for model designation.

Technical Considerations

- Equipment mobility : direct plug-in
- Connection to the mains : pluggable A
- Operating condition : continuous
- Access location : operator accessible
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : +10%, -10% (manufacturer declared)
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class II (double insulated)
- Considered current rating (A) : 20A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : Up to 2000m
- Altitude of test laboratory (m) : Up to 2000m
- Mass of equipment (kg) : 0.025 kg max.
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer’s specification of: 40 degree C. ,
- The means of connection to the mains supply is: Pluggable A
- The product is intended for use on the following power systems: TN
- The equipment disconnect device is considered to be: Plug

- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): Output (V+)

Additional Information

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Additional Standards

The product fulfills the requirements of: --

Markings and instructions

Clause Title	Marking or Instruction Details
Power rating - Ratings	Ratings (voltage, frequency/dc, current)
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number
Power rating - Class II symbol	Symbol for Class II construction  (60417-2-IEC-5172)
Fuses - Non-operator access/soldered-in fuses	Unambiguous reference to service documentation for instructions for replacement of fuses replaceable only by service personnel
LPS	Optional provides with marked "LPS" or "Limited Power Source".

Special Instructions to UL Representative

- Inspect the transformer (T1) listed in BD1.1 per AA1.1- (C).

- When the tests are conducted at other location, inspect test record and specification sheet provided by the component manufacturer.

- Verify the specification sheet indicates 100% routine test specified in BD1.1 be conducted at the component manufacturer.

Production-Line Testing Requirements

Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.

Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
Transformer (T1)	N/A	N/A	Primary to Secondary	3000 Vac	4242	1

Earthing Continuity Test Exemptions - This test is not required for the following models:

All models

Electric Strength Test Exemptions - This test is not required for the following models:

--

Electric Strength Test Component Exemptions - The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test:

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Sample and Test Specifics for Follow-Up Tests at UL

Model	Component	Material	Test	Sample(s)	Test Specifics
N/A	--	--	--	--	--

TABLE: List of Critical Components

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
01. Enclosure	--	--	Dimension see Enclosure 4-01 for detail	--	--
01a. Enclosure (Alternate)	--	--	Dimension see Enclosure 4-02 for detail	--	--
01-01. Enclosure material	Sabic Innovative Plastics Japan L L C	SE1X	V-1 minimum, 2.0 mm thick minimum, 105 degree C.	QMFZ2	UL
01-01a. Enclosure material (Alternate)	Asahi Kasei Chemicals Corp Xyron Polymer	540V	V-1 minimum, 2.0 mm thick minimum, 105 degree C.	QMFZ2	UL
01-01b. Enclosure material (Alternate)	Asahi Kasei Chemicals Corp Xyron Polymer	540Z	V-1 minimum, 2.0 mm thick minimum, 105 degree C.	QMFZ2	UL
01-01c. Enclosure material (Alternate)	Sabic Innovative Plastics Japan L L C	925U	V-0 minimum, 2.0 mm thick minimum, 115 degree C.	QMFZ2	UL
01-01d. Enclosure material (Alternate)	Sabic Innovative Plastics Japan L L C	CH6410	V-0 minimum, 2.0 mm thick minimum, 100 degree C..	QMFZ2	UL
02. Plug Holder	Sabic Innovative Plastics Japan L L C	SE1X	V-1 minimum, 2.0 mm thick minimum, 105 degree C.	QMFZ2	UL
02a. Plug Holder (Alternate)	Asahi Kasei Chemicals Corp Xyron Polymer	540V	V-1 minimum, 2.0 mm thick minimum, 105 degree C.	QMFZ2	UL
02b. Plug Holder (Alternate)	Asahi Kasei Chemicals Corp Xyron Polymer	540Z	V-1 minimum, 2.0 mm thick minimum, 105 degree C.	QMFZ2	UL
02c. Plug Holder (Alternate)	Sabic Innovative Plastics Japan L L C	925U	V-0 minimum, 2.0 mm thick minimum, 115 degree C.	QMFZ2	UL
02d. Plug Holder (Alternate)	Sabic Innovative Plastics Japan L L C	CH6410	V-0 minimum, 2.0 mm thick minimum, 100 degree C.	QMFZ2	UL
03. Fusing Resistor (RF1)	Jiangsu Xinyang Electronic Component Co Ltd	RF10-2W	350V, 10ohm, 2W	FPEW2	UL
03a. Fusing Resistor (RF1) (Alternate)		RXF-2W	350V, 10ohm, 2W	FPEW2	UL

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
03b. Fusing Resistor (RF1) (Alternate)	Shenzhen Kayocota Electronics Co Ltd	FRKNP-2W	350V, 10ohm, 2W	FPEW2	UL
03c. Fusing Resistor (RF1) (Alternate)	Shi Meng Electronic (Shenzhen) Co Ltd	FKN Series.	350V, 10ohm, 1W	FPEW2	UL
03d. Fusing Resistor (RF1) (Alternate)	Anhui Changsheng Electronics Co Ltd	FRT-2W	250V, 10ohm, 2W	FPEW2	UL
03e. Fusing Resistor (RF1) (Alternate)	Anhui Changsheng Electronics Co Ltd	RXF21-2W	250V, 10ohm, 2W	FPEW2	UL
03f. Fusing Resistor (RF1) (Alternate)	Tzai Yuan Enterprise Co Ltd	KNF	10ohm,2W	--	--
04. Inductor (L1)	--	--	130 degree C minimum	--	--
05. Bridge diodes (D1, D2, D3, D4)	--	--	1A minimum, 500V minimum	--	--
06. Electrolytic Capacitor (C1, C2)	--	--	2.2-10 uF, minimum 400 Vac. Minimum 105 degree C.	--	--
07. Transistor (Q1)	--	--	1.0A Minimum, 600V Minimum.	--	--
08. Current sense resistor (R14, R15)	--	--	Each 2.2 ohm minimum, 1/8W minimum	--	--
09. Transformer (T1)	--	--	Class B, Spec. see Enclosure 4-03 for detail	--	--
09. Transformer (T1) (Alt.)	--	DSA-5PFH-05	Class B, Spec. see Enclosure 4-07 for detail	--	--
09-1. Insulation System		YCI-130	Class B	OBJY2	UL
09-2. Core	--	--	Ferrite, see enclosure for details.	--	--
09-3. Bobbin	Hitachi Chemical Co Ltd	CP-J-8800	Two-flange, phenolic, rated V-0, minimum 150 degree C, minimum 0.71 mm thick.	QMFZ2	UL
09-3a. Bobbin (Alternate)	Sumitomo Bakelite Co Ltd	PM-9820	Two-flange, phenolic, rated V-0, minimum 150 degree C, minimum 0.71 mm thick.	QMFZ2	UL
09-4. Coil	--	--	Copper magnet wire wound concentrically on tape / bobbin.	OBMW2	UL
09-5. Triple Insulation Wire	Young Chang Silicone Co Ltd	STW-B	Minimum 130 degree C	OBJT2	UL
09-6. Insulation Tape	3M Company	1350F-1, 1350F-2	Minimum 130 degree C.	OANZ2	UL

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
	Electrical Markets Div (EMD)				
09-6a. Insulation Tape (Alternate)	Symbio Inc	35660, 35661	Minimum 130 degree C.	OANZ2	UL
09-7. Varnish	Hitachi Chemical Co., Ltd.	WP-2952F-2G	Minimum 130 degree C.	OBOR2	UL
09-7a. Varnish (Alternate)	PD George Co/Ripley Resin	468-2(+)	Minimum 130 degree C.	OBOR2	UL
09-8. Tubing (Optional)	Great Holding Industrial Co., Ltd.	TFS, TFT	Minimum 130 degree C.	YDPU2	UL
09-8a. Tubing (Optional) (Alternate)	Zeus Industrial Products Inc	TFE-TW-300, TFE-SW-600	Minimum 130 degree C.	YDPU2	UL
09a. Transformer (T1) (Alternate)	--	--	Class B, Spec. see Enclosure 4-03 for detail	--	--
09a. Transformer (T1) (Alternate)	--	DSA-5PFH-05	Class B, Spec. see Enclosure 4-07 for detail	--	--
09a-1. Insulation System		HIS-8A	Class B	OBJY2	UL
09a-2. Core	--	--	Ferrite, see enclosure for detail.	--	--
09a-3. Bobbin	Hitachi Chemical Co Ltd	CP-J-8800	Two-flange, phenolic, rated V-0, minimum 150 degree C, minimum 0.71 mm thick.	QMFZ2	UL
09a-4. Coil	--	--	Copper magnet wire wound concentrically on tape / bobbin.	OBMW2	UL
09a-5. Triple Insulation Wire	Furukawa Electric Co., Ltd.	TEX-E	Minimum 130 degree C	OBJT2	UL
09a-5a. Triple Insulation Wire (Alternate)	Totoku Electric Co Ltd	TIW-E	Minimum 130 degree C	OBJT2	UL
09a-6. Insulation Tape	3M Company Electrical Markets Div (EMD)	1350F-1, 1350F-2	Minimum 130 degree C.	OANZ2	UL
09a-6a. Insulation Tape (Alternate)	Symbio Inc	MY130	Minimum 130 degree C.	OANZ2	UL
09a-7. Varnish	Hitachi Chemical Co.,	WP-2952F-2G,	Minimum 130 degree C.	OBOR2	UL

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
	Ltd.	WA-238A, WF-285			
09a-7a. Varnish (Alternate)	Meiden Chemical Co., Ltd.	#880, #754 XL	Minimum 130 degree C.	OBOR2	UL
09a-8. Tubing (Optional)	Zeus Industrial Products Inc	TFE-TW-300	Minimum 130 degree C.	YDPU2	UL
10. PWB	--	--	V-1 or better, minimum 130 degree C.	ZPMV2	UL
11. Internal Wiring	--	--	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; minimum 300 V, 80 degree C minimum.	AVLV2	UL
12. Label	--	--	50 degree C minimum if maximum surface temperature not specified.	PGDQ2 or PGJI2	UL
13. Permanency of Marking (Alternate)	--	--	Permanently ink-stamped, silk-screened, laser printing, molded in, or on self-adhesive labels.	--	--
14. Blade	--	--	Non-polarized, Copper or copper alloy, comply with NEMA 1-15P configuration. Each blade to the enclosure perimeter shall be at least 5.1 mm. Internal blade parts connect to PCB by pressure contact (see Enclosure - Photograph 3-05) or mechanically secured to PCB by solder (see Enclosure - Photographs 3-09 and 3-10).	--	--
15. Insulating films (between T1 core and secondary components C6, C8)	Sumitomo Bakelite Co Ltd	AV-Lite DP 901	V-0 minimum, 0.4 mm thick minimum, 130 degree C. dimension see diagram 4-05 for details.	QMFZ2	UL
15a. Insulating films (between T1 and secondary components C6, C8) (Alternate)	Sabic Innovative Plastics Us L L C	FR700	V-0 minimum, 0.4 mm thick minimum, 125 degree C. dimension see diagram 4-05 for details.	QMFZ2	UL
15b. Insulating films (between T1 and secondary components C6, C8)	Mianyang Longhua Film Co Ltd.	PP-BK17, PP-BK18, PP-WT17, PP-WT18	V-0 minimum, 0.4 mm thick minimum, 100 degree C. dimension see diagram 4-05 for details.	QMFZ2	UL

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
(Alternate)					
15c. Insulating films (between T1 and secondary components C6, C8) (Alternate)	Chengdu Kanglongxin Plastics Co Ltd	KLX PC-811A, KLX PC813A	V-2 minimum 2.0 mm thick minimum, 80 degree C. dimension see diagram 4-05 for details.	QMFZ2	UL
15d. Insulating films (between T1 and secondary components C6, C8) (Alternate)	Mianyang Longhua Film Co Ltd	PC-770, PC-770 A, PC-870 A	V-0 minimum 0.4 mm thick minimum, 80 degree C. dimension see diagram 4-05 for details.	QMFZ2	UL
15e. Insulating films (between T1 and secondary components C6, C8) (Alternate)	FORMEX,DIV OF IL TOOL WORKS INC, FRMRLY FASTEX, DIV OF IL TOOL WORKS INC	FORMEX GK series	V-0 minimum, 0.4 mm thick minimum, 125 degree C. dimension see diagram 4-05 for details.	QMFZ2	UL
15f. Insulating films (between T1 and secondary components C6, C8) (Alternate)	SKC CO LTD	SH71S	V-0 minimum, 0.4 mm thick minimum, 125 degree C. dimension see diagram 4-05 for details.	QMFZ2	UL
15g. Insulating films (between T1 and secondary components C6, C8) (Alternate)	TORAY INDUSTRIES INC	Lumirror H10	V-0 minimum, 0.4 mm thick minimum, 125 degree C. dimension see diagram 4-05 for details.	QMFZ2	UL
15h. Insulating films (between T1 and secondary components C6, C8) (Alternate)	ITW ELECTRONICS COMPONENTS/ PRODUCTS (SHANGHAI) CO LTD	FORMEX-18 FORMEX-17	V-0 minimum, 0.4 mm thick minimum, 125 degree C. dimension see diagram 4-05 for details.	QMFZ2	UL
16. Thermal Pad (Between enclosure and T1) (Optional)	--	--	V-1 minimum	QMFZ2	UL

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
17. Interconnecting Cable (Optional)	Various	Various	Min. 30V, Min. 60 degree C, max. 3.05m in length, marked VW-1 or FT-1,	AVLV2, DVPJ, ZJCZ	UL

Enclosures

Type	Supplement Id	Description
Photographs	3-01	External View -1
Photographs	3-02	External View -2
Photographs	3-03	External View -1 (Alternate)
Photographs	3-04	External View -2 (Alternate)
Photographs	3-05	Internal View
Photographs	3-06	Internal View with Thermal Pad
Photographs	3-07	Component side View of PWB
Photographs	3-08	Solder side View of PWB
Photographs	3-09	Internal view with internal pin parts secured and soldered to PCB
Photographs	3-10	Internal view with internal pin parts
Photographs	3-11	internal view (Alt.)
Photographs	3-12	Internal view (Alt.)
Photographs	3-13	Internal view (Alt.)
Diagrams	4-01	Dimension of Enclosure
Diagrams	4-02	Dimension of Enclosure (Alternate)
Diagrams	4-03	Spec. of Transformer (T1
Diagrams	4-04	Spec. of Inductor (L1)
Diagrams	4-05	Dimension of Insulating films (between T1 and secondary components C6, C8)
Diagrams	4-07	Spec. of Transformer (T1
Schematics + PWB	5-01	PWB layout
Schematics + PWB	5-02	PWB layout (Alt.)


0 10 20 30 40 50 60 70 80 90
0 10 20 30 40
mm


0 10 20 30 40 50 60
0 10 20 30
mm

LGA0510-332K 固定电感器承认书

1、产品特点

轴向引线固定电感器，在铁氧体磁芯上单层或多层绕线，环氧树脂包围，包装形式可以编带也可以袋装。用于电视机、摄象机、录象机、微处理机和其他电子设备中起谐振、振荡、耦合、延迟、滤波、陷波、扼流等作用。

2、外形尺寸

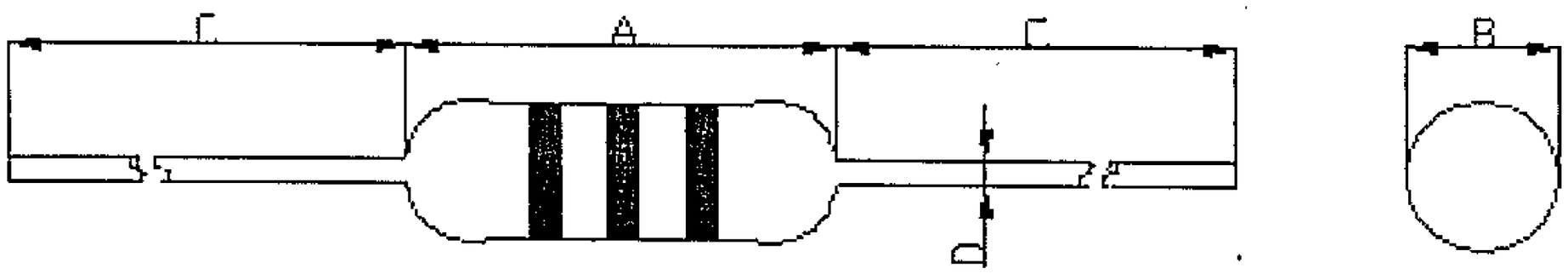
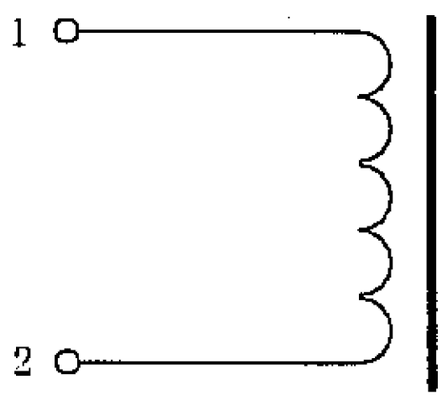


图 1：电阻外形尺寸

表 1

规格型号	尺寸（mm）				精　度
	A	B	C	D	
LGA0510-332K	10.5Max	~~5.0Max~~ 4.5Max	26±1	0.65±0.05	±10%（K）

3、电原理图



4、一般特性

规格型号	工作温度范围℃	耐电压 VDC	引线抗拉强度 N
LGA0510-332K	-25～+85	>500	>10

5、产品特性

规格型号	电感量 (mH)	Q min	测试频率 （MHz）	直流电阻 (Ω)Max	额定电流 (mA)Max
LGA0510-332K	3.3±10%	40	0.252	59.5	62

6、包装方式

- 编带方式（T52）。
- 编带尺寸如下图 2，每条编带电阻器数量为 2000～4000 只。

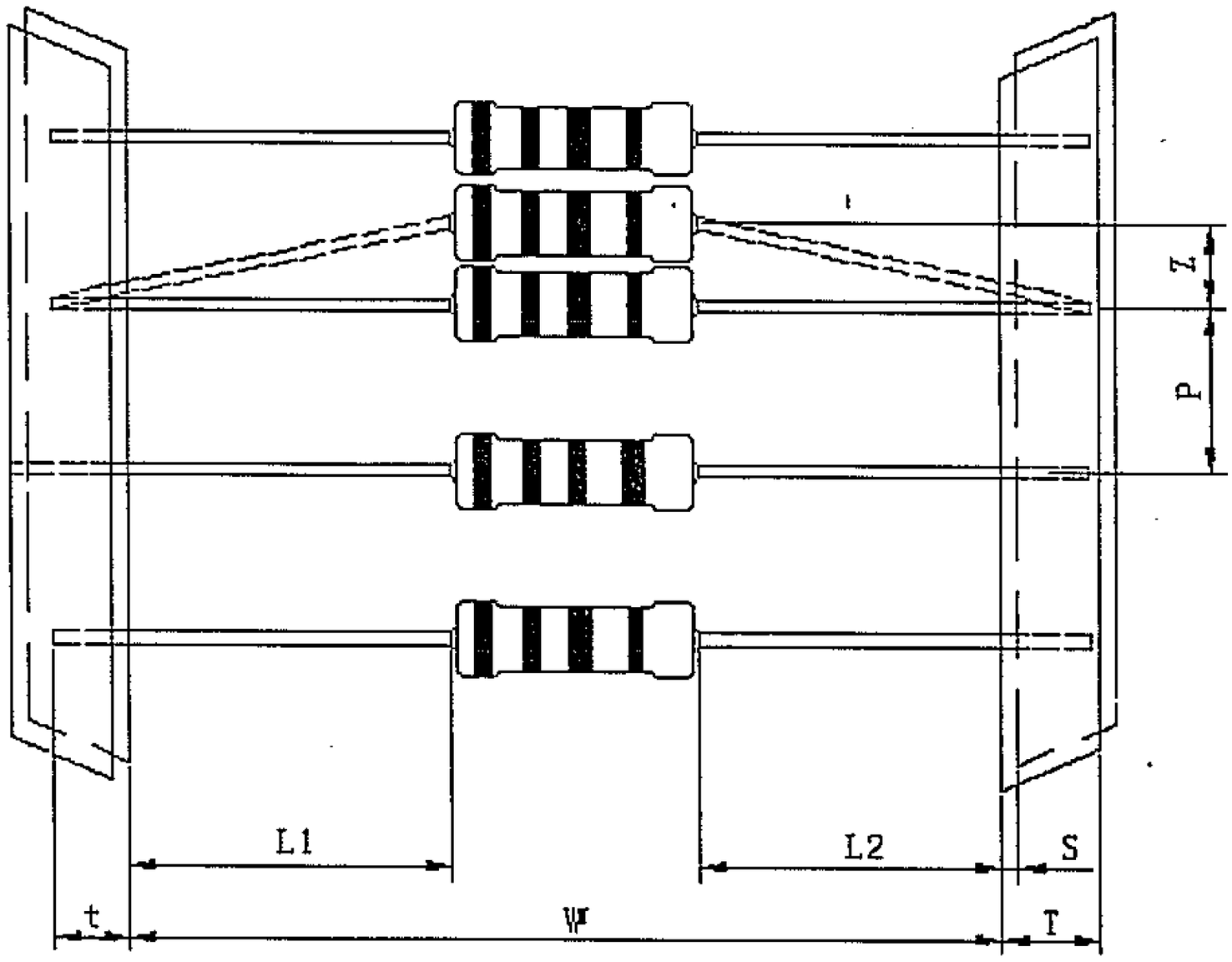


图 2：编带

型　号	尺寸（mm）						
	W±1.5	P±0.5	L1-L2	T±1	Z	t	S
LGA0510	52	5	≤1	6	≤1.2	>3.2	<0.8

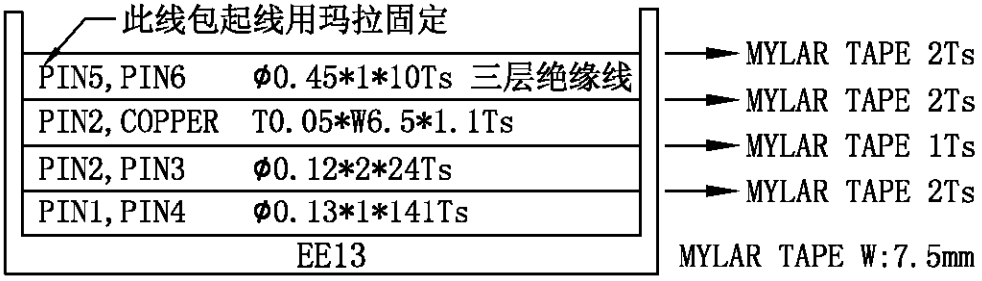
File E341351 DIA-07

REV.	ZONE	DESCRIPTION	DATE	BY
A				

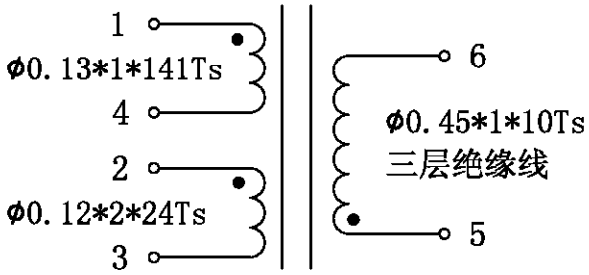
PAGE 1 OF 2

Notes:禁止使用DVE所禁用之危害物.

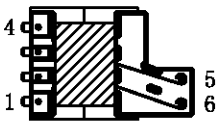
1.绕线顺序图

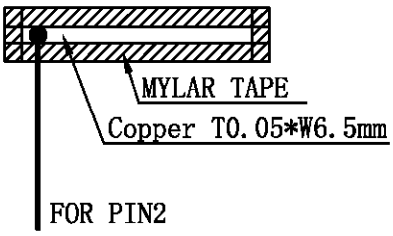


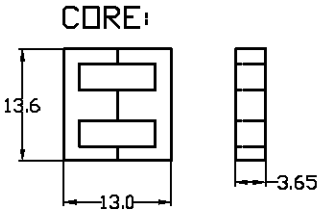
2. 原理图

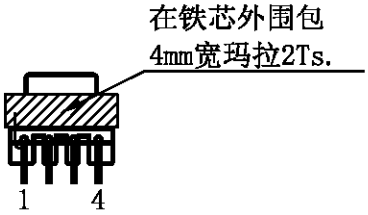


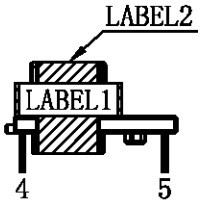
3. 三视图



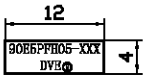






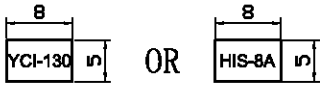


4.LABEL图



"XXX" to denote the part number, can be any alphanumeric character for marketing purposes only.

LABEL2:



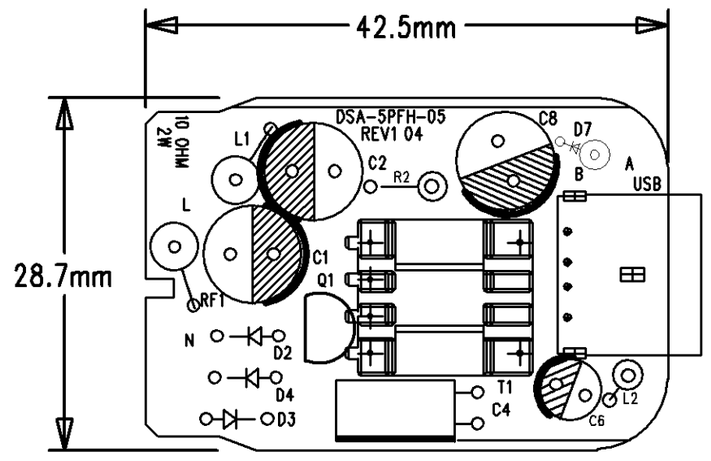
5. 感值

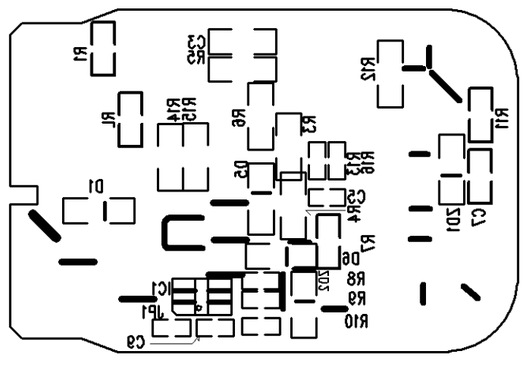
INDUCTANCE: AT 1KHz 0.25V

L(PIN1-PIN4): 1.0mH Min.

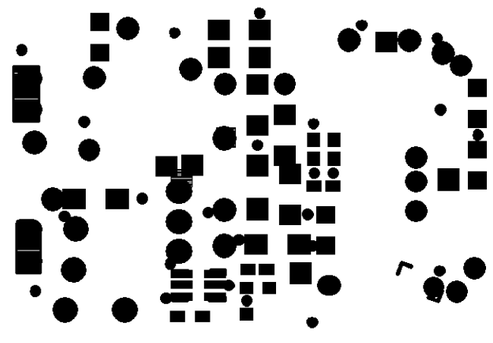
CHECKED LIST	绕线顺序	生产工艺	原理图	三视图	LABEL	电性	材料清表	PART NAME	PART NO.
								TRANSFORMER	

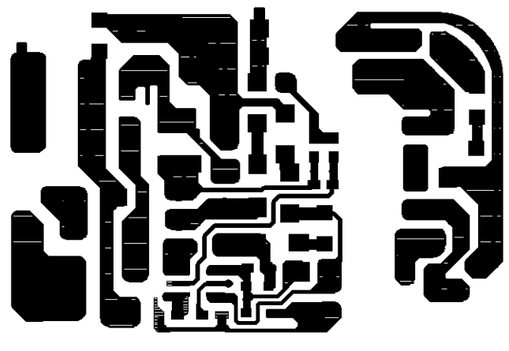
APPROVED			SAFETY	UNIT	CHECKED	DWG BY	DRAWING NO.
				mm			





DSA-5PFH-05 .REV1.041.p - Mon Mar 19 08:43:27 2012





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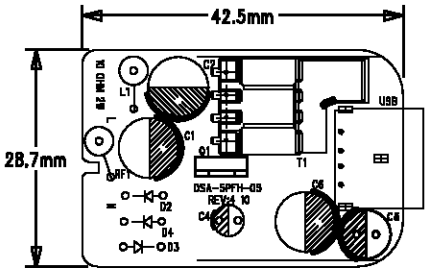
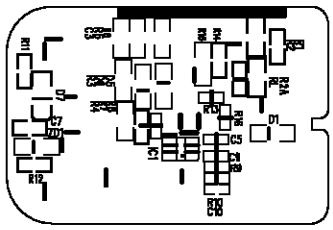
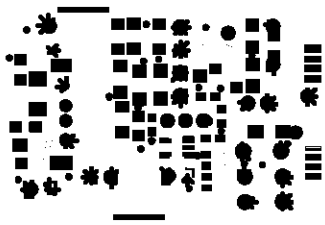
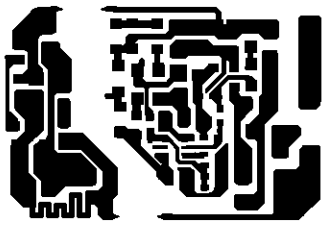
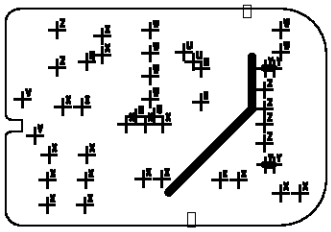








SIZE	QTY	SYM	PLTD
0.6	7	U	PLTD
0.85	4	V	PLTD
0.9	6	W	PLTD
1	19	X	PLTD
0.7	4	Y	PLTD
0.8	6	Z	PLTD
0.7 x 1.8	2	Y	PLTD



Test Record No. 1

- The manufacturer submitted representative production samples of Switching Adapter, Models GT-83080-WW05-USB-W2,
WW is the standard output wattage, with a maximum value of "05"

- Unless otherwise noted in the list of tests, all tests were conducted by Cerpass Technology Corp., Neihu District, Taipei City under TPTDP program.

- Weight and Moment Determination test have been conducted in accordance with Class 2 Power Units, UL 1310.

The following tests were conducted:

Test	Testing Location/Comments
Input: Single-Phase (1.6.2)	
Energy Hazard Measurements (2.1.1.5, 2.1.2, 1.2.8.10)	
SELV Reliability (2.2.2, 2.2.3, 2.2.4, Part 22 6.1)	
Limited Power Source Measurements (2.5)	
Humidity (2.9.1, 2.9.2, 5.2.2)	
Determination of Working Voltage; Working Voltage Measurement (2.10.2)	
Transformer and Wire /Insulation Electric Strength (2.10.5.13)	
Steady Force (4.2.1 - 4.2.4)	
Drop (4.2.6, 4.2.1)	
Stress Relief (4.2.7, 4.2.1)	
Direct Plug-In Equipment-Moment (4.3.6)	
Direct Plug-In Blade Securement (4.3.6)	
Direct Plug-In Security of Input Contacts (4.3.6)	
Direct Plug-In Resistance to Crushing (4.3.6)	
Direct Plug-In Rod Pressure (4.3.6)	
Heating (4.5.1, 1.4.12, 1.4.13)	
Ball Pressure (4.5.5, 4.5)	
Touch Current (Single-Phase; TN/TT System) (5.1, Annex D)	
Electric Strength (5.2.2)	
Component Failure (5.3.1, 5.3.4, 5.3.7)	
Transformer Abnormal Operation (5.3.3, 5.3.7b, Annex C.1)	
Power Supply Output Short-Circuit/Overload (5.3.7)	

Test results are valid only for the tested equipment. These tests are considered representative of the products covered by this Test Report. The test methods and results of the above tests have been reviewed and found to be in accordance with the requirements in the Standard(s) referenced at the beginning of this Test Report.