

UL TEST REPORT AND PROCEDURE

Standard:	ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10)(Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) CAN/CSA-C22.2 No. 60601-1 (2008) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance)
Certification Type:	Component Recognition
CCN:	QQHM2, QQHM8 (Power Supplies, Medical and Dental)
Complementary CCN:	QQGQ2, QQGQ8 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	Power Supply
Model:	GTM91099-WWVV-X.X-AB series, M can be "M" or "-" for market identification and not related to safety WW is the rated output wattage designation, with a maximum value of "60"; VV is the standard rated output voltage designation, with a maximum value of "48"; -X.X denotes the optional deviation, subtracted or added from standard output voltage in 0.1 volt increments or blank to indicate the no voltage different; VV-X.X together denotes the voltage range 5V to 48V; A:T is External/Desktop model, F is Open Frame, P is Encapsulated; when A=T, B can be 2 or 3A, 2 presents Class II, 3A presents Class I; when A=F, B can be Blank or W, W means class II equipment, Blank means class I; when A=P, B can be 2 or 3, 2 means class II equipment, 3 means class I equipment.
Rating:	Input: 100-240Vac, 50-60Hz, MAX. 1.5A Output: Refer to enclosure 7-01.
Applicant Name and Address:	GLOBTEK (HONG KONG) LTD UNIT 1402, BENSON TOWER 74 HUNG TO RD KWUN TONG KOWLOON HONG KONG

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E341350-A25-UL

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.

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UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

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

Prepared by: Jeffery Chan

Reviewed by: Sammi Liang

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

The equipment is a Power Adaptor, Electronic components mounted to PWB, and housed in plastic enclosure, with Class II appliance inlet or Class I Inlet, with alternate construction of Open Frame or Encapsulated which intended to provide electrical power to medical electrical equipment.

Model Differences

Model Differences can refer to enclosure 7-01.

Technical Considerations

- Classification of installation and use : Recognized power adaptor, shall be determine in end use application.
- Device type (component/sub-assembly/ equipment/ system) : Component
- Intended use (Including type of patient, application location) : Recognized power adaptor, shall be determine in end use application.
- Mode of operation : Continuous
- Supply connection : Appliance coupler; Input terminal; To be further consider in end system connection
- Accessories and detachable parts included : None
- Other options include : None
- The product was investigated to the following additional standards:: ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) - Edition 1 - Revision Date 2012/01/01; CAN/CSA-C22.2 No. 60601-1 (2008) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) Edition 2 - Revision Date 2011/06/01., For Class II power supply: IEC 60601-1-11 MEDICAL ELECTRICAL EQUIPMENT - PART 1-11: GENERAL REQUIREMENTS FOR BASIC SAFETY AND ESSENTIAL PERFORMANCE - COLLATERAL STANDARD: REQUIREMENTS FOR MEDICAL ELECTRICAL EQUIPMENT AND MEDICAL ELECTRICAL SYSTEMS USED IN THE HOME HEALTHCARE ENVIRONMENT - Edition 1 - Issue Date 2010/04/01
- The product was not investigated to the following standards or clauses:: Clause 14, Programmable Electronic Systems, Electromagnetic Compatibility (IEC 601-1-2) Biocompatibility (ISO 10993-1)

- The degree of protection against harmful ingress of water is:: IP54 (Not evaluated by UL)
- The following accessories were investigated for use with the product:: None
- The mode of operation is:: Continuous
- The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide:: No
- The product is Classified only to the following hazards: Casualty, Fire, Shock
- Software is relied upon for meeting safety requirements related to mechanical, fire and shock: No

Engineering Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- This equipment was tested on a 20 A branch circuit. If used on a branch circuit greater than this, additional testing may be necessary.
- No power supply cord is provided for this power supply, this item must be considered in the end product.
- This equipment has not been evaluated for field wiring.
- This equipment was evaluated for operating altitude up to 3000m above sea level.
- The maximum working voltage measure between primary and secondary is 293 V rms; 496 Vpk. The dielectric strength tests in the end product shall be based on these values.
- The suitability for this equipment to be used in patient care equipment needs to be evaluated in end-product investigation.
- Cleaning, sterilization or disinfection should be considered in the end use application.
- Transformer T1 incorporates a Class B(130 Degree C) insulation system. The Power Supply was evaluated for a maximum ambient temperature of 40 degree C.
- This power supply has been judged on the basis of the required creepage and clearances in the First Edition of the Standard for Medical Electrical Equipment, ANSI/AAMI ES 60601-1 and IEC 60601-1: 2005, Sub clause 8.9.
- This power supply has been evaluated as continuous operation, ordinary Equipment and has not been evaluated for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide. An additional evaluation shall be made if the power supply is intended for use in other than these condition.
- The unit provides the following MOPP (means of patient protection): The power supply was evaluated as 2 MOPP between primary and secondary (and 1 MOPP between primary and earth for class I models) See insulation diagram for details.
- The Class II Power Supplies have been investigated using IEC 60601-1-11, the end product which is used for HOME HEALTHCARE ENVIRONMENT should also been certificated as IEC 60601-1-11 and should fulfill the instruction and marking requirement. For example, the power adaptor should keep away from Children or Patient to prevent strangulation and asphyxiation.

Additional Information

Revision 1 (13CA36492):

Alternate Insulation tape that used on Heat Sink (HS1) is optional provide when power supply is open fram or encapsulated type


UL project 4786160712

- Adding additional investigation for Class II Power supply of IEC 60601-1-11 MEDICAL ELECTRICAL EQUIPMENT - PART 1-11: GENERAL REQUIREMENTS FOR BASIC SAFETY AND ESSENTIAL PERFORMANCE - COLLATERAL STANDARD: REQUIREMENTS FOR MEDICAL ELECTRICAL EQUIPMENT AND MEDICAL ELECTRICAL SYSTEMS USED IN THE HOME HEALTHCARE ENVIRONMENT - Edition 1 - Issue Date 2010/04/01

Additional Standards

The product fulfills the requirements of: ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) - Edition 1 - Revision Date 2012/01/01; CAN/CSA-C22.2 No. 60601-1 (2008) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) Edition 2 - Revision Date 2011/06/01. IEC 60601-1-11 MEDICAL ELECTRICAL EQUIPMENT - PART 1-11: GENERAL REQUIREMENTS FOR BASIC SAFETY AND ESSENTIAL PERFORMANCE - COLLATERAL STANDARD: REQUIREMENTS FOR MEDICAL ELECTRICAL EQUIPMENT AND MEDICAL ELECTRICAL SYSTEMS USED IN THE HOME HEALTHCARE ENVIRONMENT - Edition 1 - Issue Date 2010/04/01

Markings and instructions

Clause Title	Marking or Instruction Details
Company identification	Classified or Recognized company's name, Trade name, Trademark or File
Model	Model number
Supply Connection	Voltage range, ac/dc, phases if more than single phase
Supply Frequency	Rated frequency range in hertz
Class II equipment	
Power Input	Amps, VA, or Watts
Output	Rated output voltage, power, frequency.
IP Rating	IP54, Not evaluated by UL.

Special Instructions to UL Representative

Class I product don't have Class II equipment symbol

For markings of output: Dc output, only rated output voltage, current is applicable.

Production-Line Testing Requirements			
<u>Test Exemptions</u> - The following models are exempt from the indicated test			
Model	Grounding Continuity	Dielectric Voltage Withstand	Patient Circuit Dielectric Voltage Withstand
GTM91099-WWVV-X.X-AB series (Class II product)	Exempt	--	Exempt
GTM91099-WWVV-X.X-AB series (Class I product)	--	--	Exempt
<u>Solid-State Component Test Exemptions</u> - The following solid-state components may be disconnected from the remainder of the circuitry during either Dielectric Voltage Withstand Test:			
Component			
--			
<u>Sample and Test Specifics for Follow-Up Tests at UL</u>			
The following tests shall be conducted in accordance with the Generic Inspection Instructions			
Plastic Enclosure or Part	Test	Sample(s)	Test Specifics
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TABLE: List of Critical Components

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
Plastic Enclosure (For Desktop Type)	SABIC INNOVATIVE PLASTICS B V	CX7211(GG)	Rated min V-0, 90 degC. Overall around 113.97 by 53.47 by 19.25mm. Min. 2.1 mm thick. See enclosure 4-01 for details of enclosure dimension.	QMFZ2/8	UL/cUL (E45329)
Insulator (For Desktop construction only or optional for HS1) (Optional)	SKC Co LTD	SH71S	Provided between PWB and Enclosure. Rated VTM-2, 105 degC. Overall measured 106.86 mm by 46.72 mm, 0.43 mm thick or 41.17 mm by 36.66 mm, 0.43 mm thick	QMFZ2	UL (E74359)
Insulator (For Desktop construction only or optional for HS1) (Alternate) (Optional)	TORAY	Lumirror H10	Provided between PWB and Enclosure. Rated VTM-2, 105 degC. Overall measured 106.86 mm by 46.72 mm, 0.43 mm thick or 41.17 mm by 36.66 mm, 0.43 mm thick	QMFZ2	UL (E86511)
Insulator (For Desktop construction only or optional for HS1) (Alternate) (Optional)	FORMEX	FORMEX GK	Provided between PWB and Enclosure. Rated VTM-2, 105 degC. Overall measured 106.86 mm by 46.72 mm, 0.43 mm thick or 41.17 mm by 36.66 mm, 0.43 mm thick	QMFZ2	UL (E121855)
Insulator (For Desktop construction only or optional for HS1) (Alternate) (Optional)	SABIC INNOVATIVE PLASTICS JAPAN L L C	FR60 (GG1), FR63 (GG1), FR65 (GG1), FR7 (GG1), FR700	Provided between PWB and Enclosure. Rated VTM-2, 105 degC. Overall measured 106.86 mm by 46.72 mm, 0.43 mm thick or 41.17 mm by 36.66 mm, 0.43 mm thick	QMFZ2	UL (E207780)
Insulator (For Desktop construction only or optional for HS1) (Alternate) (Optional)	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX PP BK-10 series	Provided between PWB and Enclosure. Rated VTM-2, 105 degC. Overall measured 106.86 mm by 46.72 mm, 0.43 mm thick or 41.17 mm by 36.66 mm, 0.43 mm thick	QMFZ2	UL
Insulator (For Desktop construction only or optional for HS1) (Alternate) (Optional)	MIAN YANG	PP-(i)(j)	Provided between PWB and Enclosure. Rated VTM-2, 105 degC. Overall measured 106.86 mm by 46.72 mm, 0.43 mm thick or 41.17 mm by 36.66 mm, 0.43 mm thick	QMFZ2	UL
Plastic Enclosure (For Encapsulation Type)	SABIC INNOVATIVE PLASTICS B V	CX7211(GG)	Rated min V-0, 90 degC. Overall around 114.81 by 57.11 by 39.00 mm. Min 2.0 mm thick. See enclosure 4-02 for details of enclosure dimension.	QMFZ2/8	UL/cUL (E45329)
Appliance –Inlet (For T2 series)	ZHEJIANG LECI ELECTRONICS CO	DB-8	Rated 5A, 250Vac, 105 degC	AXUT2/8	UL/cUL (E302229)

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
	LTD				
Appliance –Inlet (For T2 series) (Alternate)	KUNSHAN DLK ELECTRONICS TECHNOLOGY CO LTD	CDJ-2	Rated 2.5A, 250Vac, 125 degC	AXUT2/8	UL/cUL (E317189)
Appliance –Inlet (For T2 series) (Alternate)	SHENZHEN DELIKANG ELECTRONICS TECHNOLOGY CO LTD	CDJ-2	Rated 2.5A, 250Vac, 125 degC	AXUT2/8	UL/cUL (E217394)
Appliance –Inlet (For T2 series) (Alternate)	RICH BAY CO LTD	R-201SN90	Rated 2.5A, 250Vac, 105 degC	AXUT2/8	UL/cUL (E184638)
Appliance –Inlet (For T2 series) (Alternate)	SUN FAIR ELECTRIC WIRE & CABLE (HK) CO LTD	S-01	Rated 2.5A, 250Vac.	AXUT2/8	UL/cUL (E226643)
Appliance –Inlet (For T2 series) (Alternate)	INALWAYS CORP	0721 series	Rated 2.5A, 250Vac, 105 degC	AXUT2	UL (E94191)
Appliance –Inlet (For T2 series) (Alternate)	TECX-UNIONS TECHNOLOGY CORP	SO-222 series	Rated 2.5A, 250Vac, 75 degC	AXUT2	UL (E220004)
Appliance –Inlet (Alternate) (for T3A series)	ZHEJIANG LECI ELECTRONICS CO LTD	DB-6	Rated 5A, 250Vac, 105 degC	AXUT2/8	UL/cUL (E302229)
Appliance –Inlet (Alternate) (for T3A series)	TECX-UNIONS TECHNOLOGY CORP	TU-333 series	Rated 2.5A, 250Vac, 75 degC	AXUT2	UL (E220004)
Appliance –Inlet (Alternate) (for T3A series)	SUN FAIR ELECTRIC WIRE & CABLE (HK) CO LTD	S-02	Rated 2.5A, 250Vac.	AXUT2/8	UL/cUL (E226643)
Appliance –Inlet (Alternate) (for T3A series)	INALWAYS CORP	0724series	Rated 2.5A, 250Vac, 105 degC	AXUT2	UL (E94191)

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
Appliance –Inlet (Alternate) (for T3A series)	RICH BAY CO LTD	R-30790	Rated 2.5A, 250Vac, 105 degC	AXUT2/8	UL/cUL (E184638)
Input connector (For Open Frame Construction)	Various	Various	Rated min 240Vac, 1.5A, 85 degC.	ECBT2/8 or XCFR2	UL/cUL
Input Lead Wire (For Encapsulation construction)	Various	Various	Rated min 300V, 105DegC, min 18AWG, VW-1.	AVLV2/8 or ZJCZ	UL/cUL
Earthing Conductor (For class I series)	Various	Various	Yellow and Green in Color, provided between inlet and PWB secondary side. Rated min 300V, 105 degC, VW-1	AVLV2/8	UL, cUL
Fuse (FS1) and (FS2)	WALTER ELECTRONIC CO LTD	ICP	Rated 3.15A, 250Vac.	JDYX/7	UL/cUL (E56092)
Fuse (FS1) and (FS2) (Alternate)	CONQUER ELECTRONICS CO LTD	MST	Rated 3.15A, 250Vac.	JDYX2/8	UL/cUL (E82636)
Fuse (FS1) and (FS2) (Alternate)	WALTER ELECTRONIC CO LTD	2010	Rated 3.15A, 250Vac.	JDYX2/8	UL/cUL (E56092)
Fuse (FS1) and (FS2) (Alternate)	SUNNY EAST ENTERPRISE CO LTD	TSP	Rated 3.15A, 250Vac.	JDYX2/8	UL/cUL (E133774)
Fuse (FS1) and (FS2) (Alternate)	Various	Various	Rated 3.15A, 250Vac.	JDYX/7	UL/cUL
Varistor (MOV1) (optional)	THINKING ELECTRONIC INDUSTRIAL CO LTD	TVR10471, TVR07471, TVR14471	Rated 300Vac.	VZCA2/8	UL/cUL (E314979)
Varistor (MOV1) (optional) (Alternate)	JOYIN CO LTD	7N471K, 10N471K, 14N471K	Rated 300Vac.	VZCA2/8	UL/cUL (E325508)

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
Varistor (MOV1) (optional) (Alternate)	CENTRA SCIENCE CORP	CNR07D471K, CNR10D471K, CNR14D471K	Rated 300Vac.	VZCA2/8	UL/cUL (E316325)
Varistor (MOV1) (optional) (Alternate)	SUCCESS ELECTRONICS CO LTD	SVR07D471K, SVR10D471K, SVR14D471K	Rated 300Vac.	VZCA2/8	UL/cUL (E330256)
Varistor (MOV1) (optional) (Alternate)	BRIGHTKING (SHENZHEN) CO LTD	471KD07, 471KD10, 471KD14	Rated 300Vac.	VZCA2/8	UL/cUL (E327997)
Varistor (MOV1) (optional) (Alternate)	WALSIN TECHNOLOGY CORP	VZ07D471K, VZ10D471K, VZ14D471K	Rated 300Vac.	VZCA2/8	UL/cUL (E309297)
Varistor (MOV1) (optional) (Alternate)	LIEN SHUN ELECTRONICS CO LTD	07D471K, 10D471K, 14D471K	Rated 300Vac.	VZCA2/8	UL/cUL (E315524)
Varistor (MOV1) (optional) (Alternate)	CERAMATE TECHNICAL CO LTD	GNR07D471K, GNR10D471K, GND14D471K	Rated 300Vac.	VZCA2/8	UL/cUL (E315429)
Varistor (MOV1) (optional) (Alternate)	Hongzhi Enterprises Ltd	HEL07D471K, HEL10D471K, HEL14D471K	Rated 300Vac.	VZCA2/8	UL/cUL E324904
Varistor (MOV1) (optional) (Alternate)	Guangxi New Future Information Industry Co Ltd	07D471K, 10D471K, 14D471K	Rated 300Vac.	VZCA2/8	UL/cUL E323753
Bleeder Resistors (RS2, RS1)	Various	Various	Max. 1.5Mohm, min. 1/4W	--	--
X-Capacitor (CX1) (Optional)	CHENG TUNG INDUSTRIAL CO LTD	CTX	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUL (E193049)
X-Capacitor (CX1) (Optional) (Alternate)	WINDAY ELECTRONIC INDUSTRIAL CO LTD	MPX	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUL (E302125)

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X-Capacitor (CX1) (Optional) (Alternate)	ULTRA TECH XIPHI ENTERPRISE CO LTD	HQX	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUL (E183780)
X-Capacitor (CX1) (Optional) (Alternate)	OKAYA ELECTRIC INDUSTRIES CO LTD	RE series	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUL (E47474)
X-Capacitor (CX1) (Optional) (Alternate)	VISHAY CAPACITORS BELGIUM N V	F1772	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUL (E100682)
X-Capacitor (CX1) (Optional) (Alternate)	TENTA ELECTRIC INDUSTRIAL CO LTD	MEX	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUL (E186475)
X-Capacitor (CX1) (Optional) (Alternate)	DAIN ELECTRONICS CO LTD	MEX, MPX, NPX	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUL (E147776)
X-Capacitor (CX1) (Optional) (Alternate)	SINHUA ELECTRONICS (HUZHOU) CO LTD	MPX	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUL (E237560)
X-Capacitor (CX1) (Optional) (Alternate)	FOSHAN SHUNDE CHUANG GE ELECTRONIC INDUSTRIAL CO LTD	MKP-X2	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUL (E308832)
X-Capacitor (CX1) (Optional) (Alternate)	SHUN DE DAHUA ELECTRIC CO LTD	HD	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUL (E227157)
X-Capacitor (CX1) (Optional) (Alternate)	Jiangsu Xinghua Huayu Electronics Co., Ltd.	MPX	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUI (E311166)
X-Capacitor (CX1) (Optional) (Alternate)	HongZhi	MPX	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUI (E192572)
X-Capacitor	SHANTOU HIGH-	MPX	Rated 0.33uF max. Min 250Vac, 100degC, marked	FOWX2/8	UL/cUI

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
(CX1) (Optional) (Alternate)	NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD		X1 or X2		(E208107)
X-Capacitor (CX1) (Optional) (Alternate)	Interchangeable	Interchangeable	Rated 0.33uF max. Min 250Vac, 100degC, marked X1 or X2	FOWX2/8	UL/cUI
Y-Capacitors (CY1, CY2) –(Optional)	WELSON INDUSTRIAL CO LTD	WD	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL (E104572)
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	SUCCESS ELECTRONICS CO LTD	SE, SB	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL (E114280)
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	TDK CORP	CD	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL (E37861)
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	WALSIN TECHNOLOGY CORP	AH	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL (E146544)
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	JYA-NAY CO LTD	JN	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL (E201384)
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	KUNSHAN WANSHENG ELECTRONICS CO LTD	CT7	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL (E249006)
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	MURATA MFG CO LTD	KX	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL (E37921)
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	mitsubishi MATERIALS CORP	AH	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL (E89615)

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	HAOHUA ELECTRONIC CO	CT7	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL (E233106)
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD	CD,CE	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL (E208107)
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	ZHI WEI ELECTRONICS CO LTD	DJ, DY	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL (E330260)
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	JERRO ELECTRONICS CORP	JX, JL	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/Cul (E333001)
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	HONGZHI	Y	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL (E192572)
Y-Capacitors (CY1, CY2) –(Optional) (Alternate)	Interchangeable	Interchangeable	Rated max.2200pF Min 250V, 105degC, marked with Y1	FOWX2/8	UL/cUL
Line Filter (LF2) (optional)	GLOBTEK	NF00031	130 degree C (OBMW2) coil wound on a core. See Enclosure 4-04 for details.	--	--
- Core	--	--	Ferrite core, approximate overall 16 by 12 by 8 mm.	--	--
- Wire	TA YA ELECTRIC WIRE & CABLE CO LTD	TYP-130(UEW/QA -B)	MW 75-C, 130 Degree C	OBMW2	UL/cUL (E84201)
- Varnish	E57	SHENZHEN CHANGXIAN TECHNOLOGY CO., LTD	130 degree C	--	--
Line Filter (LF2) (optional) (Alternate)	Various	Various	130 degree C (OBMW2) coil wound on a core.	--	--

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Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
Transistor (Q1)	Various	Various	Rated min 10A, Min. 600V	--	--
Transformer (T1)			(OBJY2) Class B. See enclosure 4-05 for construction details.	--	--
- Insulation system used in T1			Class 130 (B) Insulation System.	OBJY2/8	UL/cUL (E308897)
- Primary winding used in T1	Various	Various	Polyurethane with or without overcoat Polyamide, 130 degC min. Type MW-75.	OBMW2	UL
- Secondary winding used in T1	GREAT LEOFLON INDUSTRIAL CO LTD	TRW(B)	Rated 130 degC Triple insulated wire	OBJT2	UL (E211989)
- Bobbin used in T1	SUMITOMO BAKELITE CO LTD	PM-9820	Phenolic, rated V-0, 150 degC	QMFZ2	UL (E41429)
- Bobbin used in T1 (Alternate)	CHANG CHUN PLASTICS CO LTD	T375J	Phenolic, rated V-0, 150 degC,	QMFZ2	UL (E59481)
- Insulation Tape used in T1	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F, 44	Rated 130 degC	OANZ2	UL (E17385)
- Varnish used in T1	P D GEORGE/VIKING	V1630FS	Rated 130 degC	OBOR2	UL (E73071)
- Varnish used in T1 (Alternate)	JOHN C DOLPH CO	BC-346A	Rated 130 degC	OBOR2	UL (E51047)
- Tube	GREAT HOLDING INDUSTRIAL CO LTD	TFL	VW-1. Rated 150V, 200 degC	YDPU2	UL (E156256)
Transformer (T1) (Alternate)	GLOBTEK INC / WUXI ZHONGTONG ELECTRONICS CO LTD	XF00694, XF00695, XF00731, XF00794	(OBJY2) Class B. See enclosure 4-05 for details.	--	--
- Insulation system used	GLOBTEK INC	GTX-130-TM	Class 130 (B) Insulation System.	OBJY2	UL

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
in T1					(E243347)
- Insulation system used in T1 (Alternate)	WUXI ZHONGTONG ELECTRONICS CO LTD	ZT-130	Class 130 (B) Insulation System.	OBJY2	UL (E315275)
- Primary winding used in T1	Various	Various	Polyurethane with or without overcoat Polyamide, 130 degC Min. Type MW-75 or MW-28 or MW 79 or MW 80.	OBMW2	UL
- Secondary winding used in T1	GREAT LEOFLON INDUSTRIAL CO LTD	TRW(B)	Rated 130 degC Triple insulated wire	OBJT2	UL (E211989)
- Secondary winding used in T1 (Alternate)	COSMOLINK CO LTD	TIW-M	Rated 130 degC Triple insulated wire	OBJT2	UL (E213764)
- Secondary winding used in T1 (Alternate)	TOTOKU ELECTRIC CO LTD	TIW-2	Rated 130 degC Triple insulated wire	OBJT2	UL(E166483)
- Bobbin used in T1	CHANG CHUN PLASTICS CO LTD	T375J, T375HF	Phenolic, rated V-0, 150 degC,	QMFZ2	UL (E59481)
- Bobbin used in T1 (Alternate)	Sumitomo Bakelite Co., Ltd.	PM-9820	Phenolic, rated V-0, 150 degC,	QMFZ2	UL (E41429)
- Insulation Tape used in T1	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ, CT	Rated 130 degC.	OANZ2	UL (E165111)
- Insulation Tape used in T1 (Alternate)	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A	Rated 130 degC.	OANZ2	UL (E246950)
- Insulation Tape used in T1 (Alternate)	SYMBIO INC	35660Y	Rated 130 degC	OANZ2	UL (E50292)
- Insulation Tape used in T1 (Alternate)	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	Rated 130 degC	OANZ2	UL (E246820)
- Varnish used in T1	WU JIANG TAIHU INSULATING	T-4260(a)	MW 28. Rated 130 degC.	OBOR2	UL (E228349)

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Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
	MATERIAL CO LTD				
- Tube	GREAT HOLDING INDUSTRIAL CO LTD	TFL, TFT	VW-1. Rated 150V, 200 degC for TFL; Rated 300V, 200 degC for TFT	YDPU2	UL (E156256)
- Tube (Alternate)	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	WF	VW-1. Rated 600V, 200 degC	YDPU2	UL (E203950)
- Tube (Alternate)	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TT-L CB-TT-S CB-TT-T	VW-1. Rated 200V min, 150 degC	YDPU2	UL(E180908)
Transformer (T1) (Alternate)	SHAN DONG BOAM ELECTRIC CO LTD	XF00694, XF00695, XF00731, XF00794	(OBJY2) Class B. See enclosure 4-05 for details.	--	--
- Insulation system used in T1	SHAN DONG BOAM ELECTRIC CO LTD	BOAM-01	Class 130 (B) Insulation System.	OBJY2	UL (E252329)
- Primary winding used in T1	Various	Various	Polyurethane with or without overcoat Polyamide, 130 degC Min. Type MW-75 or MW-28, MW 79 or MW 80	OBMW2	UL
- Secondary winding used in T1	FURUKAWA ELECTRIC CO LTD	TEX-E	Rated 130 degC Triple insulated wire	OBJT2	UL (E206440)
- Bobbin used in T1	CHANG CHUN PLASTICS CO LTD	4130	Phenolic, rated V-0, 120degC, min 0.74 mm thick	QMFZ2	UL (E59481)
- Bobbin used in T1	CHANG CHUN PLASTICS CO LTD	T375J, T375HF	Phenolic, rated V-0, 150 degC,	QMFZ2	UL (E59481)
- Insulation Tape used in T1	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350FB-1; 1350FB-2; 1350FW-1; 1350FW-2; 1350FY-1; 1350FY-2	Rated 130 degC.	OANZ2	UL (E17385)

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
- Insulation Tape used in T1 (Alternate)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ, CT	Rated 130 degC.	OANZ2	UL (E165111)
- Varnish used in T1	NOROO PAINT & COATINGS CO LTD	DVB-2085(1); DVB-2085(C)	MW 28. Rated 130 degC.	OBOR2	UL (E93947)
- Tube	GREAT HOLDING INDUSTRIAL CO LTD	TFL, TFT	VW-1. Rated 150V, 200 degC for TFL	YDPU2	UL (E156256)
Opto-couplers (U1)	EVERLIGHT ELECTRONICS CO LTD	EL817	Rated min. 110degC Provide min 5000Vac isolation test voltage rating.	FPQU2/8	UL/cUL (E214129)
Opto-couplers (U1) (Alternate)	COSMO ELECTRONICS CORP	K1010, KP1010	Rated min. 115degC Provide min 5000Vac isolation test voltage rating.	FPQU2/8	UL/cUL (E169586)
Opto-couplers (U1) (Alternate)	LITE-ON TECHNOLOGY CORP	LTV-357T, LTV-357, LTV-817CN, LTV-817	Rated min. 115degC Provide min 3750Vac isolation test voltage rating for LTV-357T and LTV-357, 5300Vac isolation test voltage rating for LTV-817CN.	FPQU2/8	UL/cUL (E113898)
Opto-couplers (U1) (Alternate)	FAIRCHILD SEMICONDUCTOR CORP	H11A817B, F0D817B	Rated min. 110degC Provide min 5000Vac isolation test voltage rating.	FPQU2/8	UL/cUL (E90700)
Opto-couplers (U1) (Alternate)	SHARP CORP ELECTRONIC COMPONENTS AND DEVICES GROUP	PC817	Rated min. 100degC Provide min 5000Vac isolation test voltage rating.	FPQU2	UL (E64380)
Opto-couplers (U1) (Alternate)	Bright Led Electronics	BPC-817 BPC-817M BPC-817S	Rated min. 100degC Provide min 5000Vac isolation test voltage rating.	FPQU2	UL/cUL (E236324)
Heat Sink - HS1	--	--	Aluminium. Approximate overall dimension 82mm by 43mm by 23.5mm, 2.0mm thick, secured to PWB by soldering. See enclosure 4-03 for details.	--	--
Heat Sink - HS2	--	--	Aluminium. Approximate overall dimension 103mm	--	--

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
			by 24mm by 14.5mm, 2.0mm thick, secured to PWB by soldering. See enclosure 4-04 for details.		
Insulation tape provided on HS2, HS1 (Optional for HS1 when unit is open Frame or encapsulated type)	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350T-1, 44	Rated 130 degree C, insulation tape cover 70X24 mm primary area on HS2, and 74 X 24 mm (Alternate to 86X24 mm, when operation altitude up to 4000 m) insulation tape provide on HS1 at enclosure side	OANZ2	UL (E17385)
Insulation tape provided on HS2, HS1 (Optional for HS1 when unit is open Frame or encapsulated type)	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F, 350-1	Rated 130 degree C, insulation tape cover 70X24 mm primary area on HS2, and 74 X 24 mm (Alternate to 86X24 mm, when operation altitude up to 4000 m) insulation tape provide on HS1 at enclosure side	OANZ2	UL (E17385)
Insulation tape provided on HS2, HS1 (Optional for HS1 when unit is open Frame or encapsulated type)	SYMBIO INC	35660Y	Rated 130 degree C, insulation tape cover 70X24 mm primary area on HS2, and 74 X 24 mm (Alternate to 86X24 mm, when operation altitude up to 4000 m) insulation tape provide on HS1 at enclosure side	OANZ2	UL (E50292)
Insulation tape provided on HS2, HS1 (Optional for HS1 when unit is open Frame or encapsulated type)	YAHUA ADHESIVE TAPE CO LTD	CT, PZ, WF	Rated 130 degree C, insulation tape cover 70X24 mm primary area on HS2, and 74 X 24 mm (Alternate to 86X24 mm, when operation altitude up to 4000 m) insulation tape provide on HS1 at enclosure side	OANZ2	UL (178516)
Insulation tape provided on HS2, HS1 (Optional for HS1 when unit is open Frame or encapsulated type)	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	Rated 130 degree C, insulation tape cover 70X24 mm primary area on HS2, and 74 X 24 mm (Alternate to 86X24 mm, when operation altitude up to 4000 m) insulation tape provide on HS1 at enclosure side	OANZ2	UL (E246820)
Insulation tape provided on HS2, HS1 (Optional for HS1 when unit is open Frame or encapsulated type)	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A	Rated 130 degree C, insulation tape cover 70X24 mm primary area on HS2, and 74 X 24 mm (Alternate to 86X24 mm, when operation altitude up to 4000 m) insulation tape provide on HS1 at enclosure side	OANZ2	UL (E246950)
Insulation tape provided	BONDTEC PACIFIC	370S	Rated 130 degree C, insulation tape cover 70X24	OANZ2	UL

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
on HS2, HS1 (Optional for HS1 when unit is open Frame or encapsulated type)	CO LTD		mm primary area on HS2, and 74 X 24 mm (Alternate to 86X24 mm, when operation altitude up to 4000 m) insulation tape provide on HS1 at enclosure side		
Tube alternate instead of tape on HS2	Interchangeable	Interchangeable	Rated 130 degree C, min 0.4 mm thickness	YDPU2	UL
DC output cord	Various	Various	Min. 24AWG, min. VW-1, 80°C, min. 60V.	AVLV2 or ZJCZ	UL
Label (Optional)	DONGGUAN XIANGQUAN PRINTING CO LTD	XQ03	Rated min 80 deg C. Suitable for use on the plastic enclosure.	PGDQ2	UL (MH27594)
Label (Optional) (Alternate)	FAN JA PAPER PRINTING CO LTD	FJ-03-3	Rated min 80 deg C. Suitable for use on the plastic enclosure.	PGDQ2	UL (MH19546)
Label (Optional) (Alternate)	FAN JA PAPER PRINTING CO LTD	FJ07	Rated min 80 deg C. Suitable for use on the plastic enclosure.	PGDQ2	UL (MH19546)
Label (Optional) (Alternate)	DONGGUAN XIANGQUAN PRINTING CO LTD	XQ004-B	Rated min 80 deg C. Suitable for use on the plastic enclosure.	PGJI2	UL (MH47303)
Label (Optional) (Alternate)	E-LIN ADHESIVE LABEL CO LTD	EL-15	Rated min 80 deg C. Suitable for use on the plastic enclosure.	PGDQ2	UL (MH45549)
Label (Optional) (Alternate)	SHENZHEN CORWIN PRINTING CO LTD	CW-01	Rated min 80 deg C. Suitable for use on the plastic enclosure.	PGDQ2	UL (MH47077)
Label (Optional) (Alternate)	YUEN CHANG SPECIAL PRINTING (SHENZHEN) CO LTD	JL-08, JL-02	Rated min 80 deg C. Suitable for use on the plastic enclosure.	PGDQ2	UL (MH29752)
Label (Optional) (Alternate)	SUZHOU HAIRONG PACKING PRODUCTION CO LTD	HR-01 HR-04	Rated min 80 deg C Suitable for use on the plastic enclosure	PGDQ2	UL (MH48692)
Label (Optional) (Alternate)	DONGGUAN SHANGMAO	C-019, C-004	Rated min 80 deg C Suitable for use on the plastic enclosure	PGDQ2	UL (MH17427)

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Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
	PRINTING CO LTD				
PWB	Various	Various	Min. V-1, 130°C	ZPMV2	UL

Enclosures

Type	Supplement Id	Description
Collateral	11-01	TRF IEC60601-1-11
Particular		
Photographs	3-01	Top View (Desktop Type)
Photographs	3-02	Bottom View (Desktop Type)
Photographs	3-03	Inlet View (Desktop Type: Class II)
Photographs	3-04	PCB View - Trace Side (Desktop Type: Class II)
Photographs	3-05	PCB View - Component Side (Desktop Type: Class II)
Photographs	3-06	PCB View - Component Side without Heatsink (Desktop Type: Class II)
Photographs	3-07	Inlet View (Desktop Type: Class I)
Photographs	3-08	PCB View - Component Side without Heatsink (Desktop Type: Class I)
Photographs	3-09	PCB View - Trace Side (Open frame Type)
Photographs	3-10	PCB View - Component Side (Open Frame Type: Class II)
Photographs	3-11	PCB View - Component Side (Open Frame Type: Class I)
Photographs	3-12	PCB View - Component Side without Heatsink (Open Frame Type: Class I)
Photographs	3-13	Top View (Encapsulated Type)
Photographs	3-14	Internal View (Encapsulated Type)
Photographs	3-15	PCB View - Trace Side (Encapsulated Type: Class II)
Photographs	3-16	PCB View - Component Side (Encapsulated Type: Class II)
Photographs	3-17	PCB View - Component Side without Heatsink (Encapsulated Type: Class II)
Photographs	3-18	PCB View - Component Side (Encapsulated Type: Class I)
Diagrams	4-01	Dimension of the enclosure (Desktop type)
Diagrams	4-02	Dimension of the enclosure (Encapsulate type)
Diagrams	4-03	Dimension of HS1
Diagrams	4-04	Dimension of HS2
Diagrams	4-05	Dimension of Mylar Sheet between PWB and enclosure
Diagrams	4-06	T1 Spec
Diagrams	4-07	LF2 Spec
Schematics + PWB	5-01	PWB Layout (Desktop and Encapsulation Construction)
Schematics + PWB	5-02	PWB Layout (Open Frame Construction)
Manuals	6-01	User Manual

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Miscellaneous	7-01	Model Differences
Miscellaneous	7-02	Label (Desktop Type: Class II)
Miscellaneous	7-03	Label (Desktop Type: Class I)