File E170507 Project 03ME04368

2003-03-27

REPORT

ON

POWER SUPPLIES INFORMATION TECHNOLOGY EQUIPMENT, INCLUDING ELECTRICAL BUSINESS EQUIPMENT

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DESCRIPTION

PRODUCT COVERED:

USL/CNL - Power Adapter, Model GT-(A or R)81051-05(XX)(-Y.Y)(N,U)W2(-,U). (A or R)= Case Style, (XX)= Voltage, (-Y.Y)= Voltage Differentiator, (N,U)= N = 100-120 V / U = 100-240 V, (-,U)= - = US Blade, U = UK Blade.

ELECTRICAL RATING:

	Input			Output		
Model	V ac	A	Hz	V dc	A	W
GT-(AorR)81051- 05(03)(-Y.Y)(N,U)W2 (-,U)	100-240 or 100-120V	0.2 Max	50-60	3 - 5	1.0 Max	-
XX=05	100-240 or 100-120V	0.2 Max	50-60	5 - 7	-	5 Max
XX=07	100-240 or 100-120V	0.2 Max	50-60	7 - 10	-	5 Max
XX=12	100-240 or 100-120V	0.2 Max	50-60	10 - 13	-	5 Max

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ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE'S USE):

Special Considerations - The following items are considerations that were used when evaluating this product.

USL/CNL indicates investigation to the U.S. and Canadian (Bi-National) Standard for Safety of Information Technology Equipment, Including Electrical Business Equipment, CSA C22.2, NO. 60950/UL 60950, Third Edition including revisions through revision date March 15, 2002.

The equipment was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 30° C.

The equipment is: Movable, Class II, pluggable type A, direct plug-in, intended for use on TN power system.

Disconnect device - The following part is considered the equipment disconnect device: Direct plug-in unit. (Blade)

Limited Power Source: The following circuits have been evaluated as a limited power source:

Location Circuit (Schematic) Designation

Output

Output connector

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CONSTRUCTION DETAILS:

See Section General for additional details.

Markings - Listee's name or file no. or trade mark (if applicable), Model number, and electrical ratings are provided on R/C (PDGQ2), Permanently ink - stamped or stenciled on the enclosure. Additionally marked "LPS" or "Limited Power Source" may be provided on the unit.

Date of Manufacturer Marking - For CN products, the unit shall have a marking which indicates the month and year of manufactures. Coding or serial numbers are acceptable.

Printed Wiring Board - See Sec. Gen. for details.

Class II Marking - " Square enclosed in a square", marked on the enclosure to indicate double insulated equipment.

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MODEL GT-(A or R)81051-05(03)(-Y.Y)(N,U)W2(-,U) FIG. 1 (T02-0004519)

General - Fig. 1 shows the overall view of the adapter.

 Enclosure - (QMFZ2), GE Plastics, Type SE100, rated V-1, minimum 2.0 mm thick. Two pieces construction, secured together by soldered welding. Assembly dimensions measured overall 54 by 29.5 by 39.5 mm. Also provided with a 4.5 by 5.5 mm opening for output cord bushing.

Alternate - same as above except for type SE1x, rated V-1, minimum 1.5 mm thick.

Alternate - same as above except for overall 55.5 by 39.3 by 30.2 mm. Also provided with a 4.5 by 6.0 mm opening for output cord bushing.

- 2. Blades Solid copper alloy, non-grounding configuration. Blades spaced minimum 5.9 mm from upper enclosure perimeter. Connected to PWB through internal wiring. See internal wiring, See ILL. 1 for dimensions, spacings and relative locations of blades.
- 3. Output Cord SELV, non-detachable, PVC insulated parallel wire, marked VW-1 or FT-1, rated 80°C minimum. Secured to Printed Wiring Board by solder inside enclosure and terminated to a polarized PVC molded-on connector outside enclosure.
- Output Strain Relief PVC bushing integrally molded on output cord, physically fit between enclosures. See ILL. 2 & 3 for detailed dimensions.

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MODEL GT-(A or R)81051-05(03)(-Y.Y)(N,U)W2(-,U) Fig. 2 (T02-0004520)

General - Fig. 2 shows the interior construction of the adapter.

- Fusible resistor (RF1) Tai Electronic Co., Ltd., Type FRN2 WP, rated 8.2 ohm, 2 W Maximum.
- Bridging Capacitor (CY1) Optional R/C (FOWX2 or FOKY2), rated 2200 pF maximum, 250 V ac. VDE certified Y1 capacitor to comply with IEC 384-14.
- Capacitors (C1, C2) Electrolytic with integral pressure relief, rated
 6.8 µf, 400 V, 105°C minimum.

Alternate - For models DSx-0051-xx AUS, same as above except rated 200 V.

- 4. Bridge Diode (D1-D4) Rated minimum 600 V, 1 A.
- 5. Optical Isolator (U2) Optional R/C (FPQU2), CN, Agilent Technologies Inc., Type HCPL-817. Rated 3000 V ac isolating voltage minimum.

Alternate - Same as above except for Cosmo Electronics Corp., Type KP1010.

Alternate - Same as above except for Fairchild Semiconductor Corp., Type H11.

Alternate - Same as above except for Lite-on Electroics Inc., Type LTV 817.

Alternate - Same as above except for Sharp Corp. Electronic Components Group, Type PC123.

Alternate - Same as above except for Toshiba Semiconductor (Thailand) Co., Ltd., Type TL181 or TLP621 or TLP721.

Alternate - Same as above except for Vishay Semiconductor Gmbh, Type TCET1102G.

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6. Varistor (MOV1) - Optional - Across the line, (XUHT2), CN, Centra Science Corp., Type CNR-07D431K.

Alternate - Same as above except for Ceramate technical Co., Ltd., type 07D271K.

Alternate - Same as above except for Joyin Co., Ltd., Type JVR07N431K or JVR07N241K.

Alternate - Same as above except for Uppermost Electronic Industries Co., Ltd., Type V07K275 or V07K250.

Alternate - Same as above except for Walsin Technology Corp., Type 7D431K.

Alternate - Same as above except for CNR Electronics Co., Ltd., Type CNR-07D431K or CNR-07D241K.

Alternate - Same as above except for Thinking Electronics Co., Ltd., Type TVR F/B431 or TVR07241.

- 7. Transistor (Q1) Rated minimum 400 V, 1 A.
- 8. Inductor (L1) Optional Open type construction. Core: Ferrite, 5.0 mm OD by 9.0 mm high. Coil winding: Enameled copper wire, (OBMW2), rated 130°C, 230 turns, 0.09 mm diameter.
- Transformer (T1) Varnished and Open type. Type designation DASH 2 B-5 by Dee Van Enterprise Co., Ltd. Constructed as follows. See also ILL.5.
- 10. Core Ferrite core, overall dimensions approximately 16.3 by 14.3 by 4.7 mm.

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- 11. Bobbin (QMFZ2), two-flange type molded of Phenolic, (QMFZ2), Chang Chun Plastics Co., Ltd., Type T373J, minimum 1.0 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin, all exit leads provided with tubing that extended into bobbin.
- 12. Insulation Tape Polyester tape, (OANZ2).
- Shielding Tape optional Polyester copper foil tape, (OANZ2) overall 8 by 0.05 mm.
- 14. Secondary winding Triple insulated wire (OBJT2), Furukawa Electric Co., Ltd., Type TEX-E, secured to printed wiring board by solder at free end.

Alternate - Same as above except for Great Leoflon Industrial Co., Ltd., Type TRW (B).

15. Winding Insulation -

Location	Thickness (mm) / Material / Layers
Outer Wrap	0.15 mm / Polyester type / 3
Primary (N1) / Shielding	0.05 mm / Polyester type / 1
Shielding / Secondary (S1)	0.15 mm / Polyester type / 3
Secondary (S1) / Primary (N2)	0.15 mm / Polyester type / 3
Primary (N1) / Core	1.0 mm / Bobbin

Winding information as follows:

Windings	Pin No.	Size (mm)	No. of turns
N1 (Primary)	1 - 2	0.13 *	138
N2 (Primary)	4 - 3	0.13 *	8
S1 (Secondary)	6 – 9	0.3 * 3	10

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Alternate - For model GT-(AorR)81051-05(05)(-Y.Y)(N,U)W2(-,U), same as above except winding information as follows:

Windings	Pin No.	Size (mm)	No. of turns
S1 (Secondary)	6 – 9	0.3 * 2	11

Alternate - For model GT-(AorR)81051-05(07)(-Y.Y)(N,U)W2(-,U), same as above except winding information as follows:

Windings	Pin No.	Size (mm)	No. of turns	
S1 (Secondary)	6 - 9	0.3 * 2	13	

Alternate - For model GT-(AorR)81051-05(12)(-Y.Y)(N,U)W2(-.U), same as above except winding information s follows:

Windings	Pin No.	Size (mm)	No. of turns
S1 (Secondary)	6 – 9	0.3 * 1	15

- 16. Mylar Sheet R/C (QMFZ2), rated V-2, 80 °C minimum, 0.2 mm thick, overall 24.5 by 20 mm, provided on underside of PWB. Secured to enclosure by glue.
- Printed Wiring Boards See Sec. Gen. for details. Rated V-1, 105°C minimum. General appearance of trace pattern and component layout same as ILL. 4.