

File E328847
Project 4786164232

March 29, 2014

REPORT

on

COMPONENT - DRIVERS FOR LIGHT-EMITTING-DIODE ARRAYS, MODULES AND CONTROLLERS

ANTRON ELECTRONICS CO LTD
TAINAN, TAIWAN

Copyright © 2014 UL LLC

UL LLC authorizes the above named company to reproduce this Report only for purposes as described in the Conclusion. The Report should be reproduced in its entirety; however to protect confidential product information, the Construction Details Descriptive pages may be excluded.

DESCRIPTION

PRODUCT COVERED:

USR/CNR - Class 2 LED Driver, models AC-D12C350UVH, AC-D12C350BHV, AC-D15CD450BHX, AC-T30CD700AKA, AC-T30CD700BKB, AC-Q15CD450BHZ, and AC-Q37CD1.05AGD, AC-Q37CD1.05AGD, AC-D48CD1.05AGM, AC-T48CD1.05AGN, AC-Q25C700UVH, AC-Q33CD1.35AKY, **AC-Q33CD1.35BKY**, and AC-D22CD700UVDT, AC-D22CD700UV.

GENERAL:

The units are switch-mode constant-current isolating power supplies consisting of an isolation transformer and other related electronic circuitry connected in the end-use application via pigtail leads with or with mating connector or terminal block or combination of both. The unit is also provided with 0-10V input dimming leads.

ELECTRICAL RATINGS:

Cat. No.	Input Voltage (V) 50/60 Hz	Input Current (A)	Max Output Voltage (Vdc)	Output Current (mA) - Constant Current
AC-D12C350UVH	120-277	0.24-0.1	46	2 x 350
AC-D12C350BHV	347	0.08	46	2 x 350
AC-D15CD450BHX	347	0.11	46	2 x 450
AC-Q15CD450BHZ	347	0.27	46	4 x 450
AC-T30CD700AKA	120-277	0.9-0.39	56	3 x 700
AC-T30CD700BKB	347	0.31	56	3 x 700
AC-Q37CD1.05AGD	120-277	1.48-0.65	48	4 x 1050
AC-Q37CD1.05AGD				
AC-D48CD1.05AGM	120-277	0.96-0.42	46	2 x 1050
AC-T48CD1.05AGN	120-277	1.44-0.62	46	3 x 1050
AC-Q25C700UVH	120-277	1-0.44	36	4 x 700
AC-Q33CD1.35AKY	120-277	1.34-0.58	25	4 x 1350
AC-Q33CD1.35BKY	347	0.46	25	4 x 1350
AC-D22CD700UVDT	120-277	0.46-0.20	32	2 x 700
AC-D22CD700UV			12	1 x 100

Model numbers may be followed by blank, "/L", or "/J" to indicate the use of a terminal block connector, pigtail leads, or pigtail leads with mating connector respectively for the output connection. "D" or "F" suffix indicates dimming capabilities.

TECHNICAL CONSIDERATIONS (NOT FOR UL FIELD REPRESENTATIVE USE):

Use - For use only in (or with) complete equipment where the acceptability of the combination is determined by UL LLC.

USR - Indicates investigation to the United States requirements UL Standard for Safety for Light Emitting Diode (LED) Equipment for Use In Lighting Products, UL 8750, and the Standard For Safety For Class 2 Power Units, UL 1310.

CNR indicates investigation to Canadian Standard for Light Emitting Diode (LED) Equipment for Lighting Applications, CAN/CSA C22.2 No. 250.13-12, and Power Supplies with Extra-Low-Voltage Class 2 Outputs, CAN/CSA C22.2 No. 223-M91.

CN - Either the Canadian Standards Association Certification or Component Acceptance Mark or the UL Listing or UL Recognition Mark for Canada.

These components have been judged on the basis of the required spacing in accordance with an Overvoltage Category II and Pollution Degree 1 (potted enclosure) per the Standard for UL 8750, Clause 7.8.3 and Tables 7.4 with live parts to enclosure spacing evaluated per Table 7.6 and CSA C22.2 No. 223, Tables 2 and 3 per CSA C22.2 No. 250.13-12, Clause 8.7.3 including Table 5 with live parts to enclosure spacing evaluated per Table 7.

CONDITIONS OF ACCEPTABILITY - When installed in the end-use equipment, the following are among the considerations to be made:

1. The LED drivers have been evaluated using an electronic or resistive load resulting in the rated output current.
2. All units utilize a Class F insulation system for the isolation transformer (T2). The maximum recorded temperatures on Model AC700T30D when tested at an ambient of 40°C and normalized to 65°C. The need to repeat the temperature test shall be determined in end-use product if temperatures exceed the following:

Transformer T2 Coil: 110°C
Tc Point on Case above T2: 82°C

The maximum recorded temperatures on the isolation transformer (class F system) and the unit case for Model AC1050Q37D/L were as follows when tested at an ambient of 45°C. These temperatures shall not be exceeded:

Transformer T2 Coil: 108°C
Tc Point on Case above T2: 72°C

The maximum recorded temperatures on the isolation transformer (class F system) and the unit case for Model AC-D48CD1.05AGM, AC-T48CD1.05AGN, AC-Q25C700UVH, AC-Q33CD1.35AKY, AC-D22CD700UVDT, AC-D22CD700UV were as follows when tested at an ambient of 65°C. These temperatures shall not be exceeded:

Model	Transformer T2 Coil:	Tc Point on Case above T2:
AC-D48CD1.05AGM	95.2	77
AC-T48CD1.05AGN	111.9	73
AC-Q25C700UVH	104.7	69
AC-Q33CD1.35AKY	104.8	78
AC-D22CD700UVDT AC-D22CD700UV	97.0	74

3. The products were tested while connected to a 20A branch circuit.
4. The Leakage Current Test was only conducted between exposed conductive surface and the grounded pole of the supply circuit.
5. The enclosure shall be grounded in the end-use application.
6. Suitable for Dry and Damp Locations only.

*

7. **The temperatures on the input (J1) and output (J2) connectors shall not exceed 105°C and 65°C, respectively.**
8. **All Models comply with LVLE requirements per CSA C22.2 No. 250.13-12, Annex A and CSA Informs Ref. No. I13-020 and therefore can be marked Class 2 for Canada. These outputs shall not be accessible and shall be determined in the end-use application.**

CONSTRUCTION DETAILS:

The unit or units shall be constructed in accordance with the following items. See also, Section General, Construction Details.

Corrosion Protection - Ferrous metal parts are protected against corrosion by plating or painting.

Soldered Connections - All soldered connections are mechanically secured before soldering. When hand soldered, leads on printed circuit boards are bent over prior to soldering.

Exception - Printed circuit board assemblies that are wave soldered.

Tolerances - Unless specified otherwise, all indicated dimensions are approximate.

MARKINGS:

In addition to the Section General all markings are either permanently ink stamped, silk-screened, or provided on a PGDQ2, preprinted or die-stamped foil type, suitable for application to the surface involved and rated minimum 90°C. Each unit shall be legibly and permanently marked with the following:

Each unit shall be legibly and permanently marked with the following:

1. Recognized Company name or File Number or other descriptive marking by which the organization responsible for the product is able to be identified. May include the Listee's website address and which must include Recognized Company name.
2. Catalog number or equivalent.
3. Factory Identification (ID) if assembled at more than one location.
4. Date of manufacture
5. Electrical ratings - Input voltage, current or wattage, frequency; and output voltage, and current or wattage.
6. Output Polarity (optional)
7. Output Type - "Class 2"
8. Environmental Location (Optional) - "Damp Locations".
9. Recommended Maximum Ambient (Optional)

Other than date code marking, all marking shall appear on a surface of the supply other than the mounting surface.

