

File E328847  
Project 11SC04255

July 14, 2012

REPORT

On

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

Antron Electronics Co. Ltd  
Tainan Hsien Taiwan

Copyright © 2012 UL LLC. All Rights Reserved.

UL LLC authorizes the above named company to reproduce this Report either in its entirety or the portion of this Report consisting of the Cover Page up to (but not including) the Construction Details descriptive pages.

## DESCRIPTION

## PRODUCT COVERED:

USR/CNR - Class 2 LED Drivers, Models:

- AC-D18C350UVH, AC-12CT350ABSY
- AC-25CD571ATKL, AC-23CD571ATNE  
AC-42CD700UV-QS, AC-42CD700UV-QS
- AC-39CD700ARBHQ, AC-42CD700UVQSC  
AC-29CD800ALS, AC40CD950UVBMQS  
AC-40CD950AQBQ
- AC-38CD900AQBKH,  
AC-50CD1.05UVTS, AC-60CD1.05UVTS
- AC-44CD1.15UVTS,
- AC-47CD1.14ATNF,  
AC-60CD1.4UV-TS  
AC-60CD1.4ATSHH  
AC-60CD1.4ATNU, and AC-60CD1.4AQHE
- AC-60CD1.4ATEF,
- AC-60CD1.4BTMT
- AC-62CD1.3AHR

where YY indicates an optional switch designated as D2, D3, or D4 and represents two, three, or four different output current settings in the range below.

## GENERAL:

The units are switch-mode isolating power supplies. The units consist of transformers and other related electronic circuitry provided with input/output pigtail leads for connection in the end-use application.

## ELECTRICAL RATINGS:

| Cat. No.                                              | Input Voltage (V)<br>50/60 Hz | Input Current (A) | Max Output Voltage (Vdc) | Max Output Current (mA) - CC |
|-------------------------------------------------------|-------------------------------|-------------------|--------------------------|------------------------------|
| AC-D18C350UVH<br>AC-12CT350ABSY                       | 120-277                       | 0.34-0.17         | 55                       | 350                          |
| AC-25CD571ATKL<br>AC-23CD571ATNE                      | 120-277                       | 0.27-0.11         | 46                       | 620                          |
| AC-42CD700UV-QS<br>AC-39CD700ARBHQ<br>AC-42CD700UV-QS | 120-277                       | 0.44-0.19         | 60                       | 700                          |
| AC-42CD700UVQSC<br>AC-29CD800ALS                      | 120-277                       | 0.4-0.175         | 60                       | 700                          |
| AC40CD950UVBMQS<br>AC-40CD950AQBQ<br>AC-38CD900AQBKH  | 120-277                       | 0.4-0.17          | 47                       | 950                          |

|                 |         |           |    |      |
|-----------------|---------|-----------|----|------|
| AC-50CD1.05UVTS | 120-277 | 0.5-0.22  | 57 | 1050 |
| AC-60CD1.05UVTS | 120-277 | 0.6-0.26  | 57 | 1050 |
| AC-60CD1.15UVTS |         |           |    |      |
| AC-44CD1.15UVTS | 120-277 | 0.44-0.19 | 45 | 1150 |
| AC-47CD1.14ATNF | 120-277 | 0.54-0.24 | 52 | 1240 |
| AC-60CD1.4UV-TS | 120-277 | 0.6-0.26  | 57 | 1400 |
| AC-60CD1.4ATSHH |         |           |    |      |
| AC-60CD1.4ATNU  |         |           |    |      |
| AC-60CD1.4AQHE  | 120-277 | 0.6-0.26  |    |      |
| AC-60CD1.4ATEF  |         |           |    |      |
| AC-60CD1.4BTMT  | 347     | 0.2       | 43 | 1400 |
| AC-62CD1.3AHR   | 120-277 | 0.6-0.26  | 48 | 1300 |

\*

CC = Constant Current

Where "D" after the model number indicates that it is provided with 0-10 V dimming circuitry

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.

CNR - Indicates investigation to the Canadian standard for Light emitting diode (LED) equipment for lighting applications, CSA C22.2 no. 250.13-12.

The outputs were evaluated as Class 2 per UL Standard for Safety for Class 2 Power Units, UL 1310.

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

\*Spacing's have been evaluated in accordance with an Overvoltage Category II and Pollution Degree 1 (potted enclosure) per Exception #1 of cl. 7.8.3 of UL 8750 (with live parts to enclosure spacing's evaluated per Table 7.6) and CSA C22.2 No. 223, Clause 4.10.6 and CSA C22.2 No. 250.13-12 via Table 5 (with live parts to enclosure spacing's 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 power supply shall be installed in compliance with the enclosure, mounting, spacing, casualty, temperature, and segregation requirements of the end-use application.

2. All units utilize a Class B insulation system for the isolation transformer (T2).

3. The drivers were temperature tested in a 65°C oven. The maximum temperature on the enclosure, above T2, was:

- 84.0°C for Models AC-42CD700UVQS1 and AC-39CD700ARBHQ, AC-42CD700UVQS1 AC-42CD700UVQSC, AC-42CD700UV-QS, AC-42CD700AQBCC along with 77.0°C for model AC-50CD1.05UVTS, AC50CD1.05ATBCD 87.3°C for model AC-60CD1.05UVTS, AC-60CD1.15UVTS,

88.2°C for model AC-60CD1.4UV-TS AC-60CD1.4ATSHH AC-60CD1.4AQHE AC-60CD1.4ATEF AC-60CD1.4ATNU AC-50CD1.4ATN AC-60CD1.4APPU AC-60CD1.4APTPU

AC-60CD1.4AFRD AC-50CD1.4APUQ (represents model AC-60CD1.4AQHE AC-60CD1.4ATEF)

- 76.9°C for model AC-60CD1.4AQHE, and 83.0°C for model AC-44CD1.15UVTS (represents models AC-25CD571ATKL
- AC-23CD571ATNE, AC-47CD1.14ATNF).
- 78.4°C for model AC-60CD1.4BTMT (represents models AC-60CD1.4BTMT) on backside of T2.
- 83.8°C for model AC-62CD1.3AHR

Models AC-29CD800ALS, AC40CD950UVBMQS and AC-D18C350UVH, AC-12CT350ABSY were tested in a 55°C ambient with a maximum temperature measured on the enclosure above T2 as 87.7°C for first two models and 75.4°C for model AC-D18C350UVH and AC-12CT350ABSY.

4. The products were tested while connected to a 20A branch circuit. Additional testing shall be considered in the end-use product if used on a branch circuit greater than 20A.

5. The products are provided with input and output pigtail leads. The suitability of the leads shall be determined in the end-use application.

6. Tests were conducted using resistive and/or electronic loads.

7. The enclosure is required to be grounded in the end-use application. Proper grounding shall be evaluated during the end-product installation since the unit only employs functional bonding to the case.

\*9. Models AC-42CD700UVQS1, AC-29CD800ALS, AC40CD950UVBMQS, AC-42CD700UVQS1, AC-23CD571ATKZ AC-50CD1.05UVTS AC-60CD1.4UV-TS, AC-44CD1.15UVTS, AC-23CD571ATKZ, AC-47CD1.14ATLB, AC-50CD1.4APUQ

AC-60CD1.4BTMT, AC-62CD1.3AHR are provided with a 0-10 V dimming circuit where testing utilized the 10 Volt OC condition as the worst case output condition.

Dim circuit evaluated per UL 935, SB8, SB9, and SB11 as "Class 2".

\*

10. For Model AC-D18C350UVH and AC-12CT350ABSY, the unit has two outputs which are not intended to be interconnected. Consideration shall be given to marking the end-product with, "WARNING - Risk of Fire or Electric Shock. Do not interconnect output terminations."

\*11. LED Drivers, Models AC-39CD700ARBHQ, AC-42CD700UVQS1, AC-29CD800ALS, AC-50CD1.05UVTS, AC-60CD1.05UVTS, AC-42CD700UVQS1, AC-60CD1.4BTMT, AC40CD950UVBMQS AC-40CD950AQBQ AC-38CD900AQBKH AC-29CD800ALS **AC-40CD950AQBQ**, AC-D18C350UVH, AC-12CT350ABSY, AC-44CD1.15UVTS, AC-60CD1.4UV-TS, AC-47CD1.14ATNF, AC-23CD571ATKZ, AC-60CD1.4BTMT, AC-62CD1.3AHR comply with LVLE requirements per CSA Informs Ref. No. I13-020 and therefore can be marked Class 2 for Canada. These outputs shall not be accessible which shall be determined in the end-use application.