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Project 11SC04255

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REPORT

On

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

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## DESCRIPTION

## PRODUCT COVERED:

USR/CNR - Class 2 LED Drivers, Models:

- AC-D18C350UVH, **AC-12CT350ABS**
- 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><b>AC-12CT350ABS</b>                 | 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   | <b>120-277</b> | <b>0.6-0.26</b> | <b>48</b> | <b>1300</b> |

\*

**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".

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**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.