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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-30C833ABPP AC-30C833ASQ AC-30C833UV AC-30C833ABNV, AC-50CD1.4AQM AC-50CD1.4UV-TS AC-50CD1.6UV-TS AC-50CD1.4ATTR, **AC40CD1.05ATBAE** AC-40CD1.05UVTS AC-40CD1.05ATAE AC-40CD1.05ATSD, AC-40CD1.05BCW AC-40CD1.05BFN AC-30CD740BLR AC-40CD1.05BTLY, AC-40CD1.4ADBQP AC-40CD1.4AQL AC-40CD1.4UV-QS AC-40CD1.67AQCZ AC-40CD1.4AQKE AC-40CD1.4APKV AC-40CD1.4APBKV AC-40CD1.4APMZ AC-40CD1.4APSC AC-40CD1.4AQRQ, AC-60CD2.5UV-QS AC-50CD2.5ARDQ, AC-21CD1.4UV, AC-15CD440UV AC-15CD440ABNR AC-12CD350ABSZ AC-11CT440KRY AC-16CT440ARZ, AC-17C700BM, AC-23CD1.15UVTS, AC25CD1.05ATEAR, AC-43CD1.8UVBTT, AC32CD1.05AQBAAW AC-29CD950AQBKP AC-35C1.0AUA, AC-46CD1.7BDTEF AC46CD1.7BDBTEF, AC36CD1.8ATBTEH AC-26CD1.75AVC , AC36CD1.8BTBTEH AC-36CD1.8BTTEH , AC-9CD450AEHF , AC-9CD450BEHF , AC-18CD900BDEHG AC-18CD900BTTEG AC18CD900BTBTEG , AC-35CD1.75ARDR AC-26CD1.75ATS and AC-50CD1.4BTMS , 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. AC-47CD1.8ATPA , AC-47CD1.8BTPA (where "x" may be any alphanumeric character, "-" or blank)

GENERAL:

The units are constant current, switch-mode isolating power supply with Class 2 output. 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) 50/60 Hz	Input Current (A)	Max Output Voltage (DC)	Output Current (mA)
AC-50CD1.4AQM AC-50CD1.4UV-TS AC-50CD1.6UV-TS AC-50CD1.4ATTR	120-277	0.5-0.23	36	700-1400
AC-40CD1.4ADBQP AC-40CD1.4AQL AC-40CD1.4UV-QS AC-40CD1.67AQCZ AC-40CD1.4AQKE AC-40CD1.4APKV AC-40CD1.4APBKV AC-40CD1.4APMZ AC-40CD1.4APSC AC-40CD1.4AQRQ		0.4-0.18	29	700-1400
AC40CD1.05ATBAE AC-40CD1.05UVTS AC-40CD1.05ATAE		0.4-0.17	38	1050

AC-40CD1.05ATSD				
AC-40CD1.05BCW AC-40CD1.05BFN AC-30CD740BLR AC-40CD1.05BTLY	347	0.14	51	1050
AC-30C833ABNV AC-30C833ABPP AC-30C833ASQ AC-30C833UV	120-277	0.32-0.13	36	833
AC-21CD1.4UV		0.22-0.11	15	1400
AC-15CD440UV AC-15CD440ABNR AC-12CD350ABSZ AC-11CT440KRY		0.07-0.16	34	440
AC-60CD2.5UV-QS AC-50CD2.5ARDQ		0.6-0.27	24	1700-2500
AC-17C700BM	120	0.185	24	700
AC-23CD1.15UVTS	120-277	0.29-0.13	25	700-1150
AC25CD1.05ATEAR	120-277	0.27-0.11	29	750-1050
AC-43CD1.8UVBTT	120-277	0.55-0.25	30	1050-1800
AC32CD1.05AQBAW AC-29CD950AQBKP AC-35C1.0AUA	120-277	0.32-0.14	35	500-1050
AC-46CD1.7BDTEF AC46CD1.7BDBTEF	347	0.18	40	1700
AC36CD1.8ATBTEH AC-26CD1.75AVC	120-277	0.41-0.18	26	1800
AC36CD1.8BTBTEH AC-36CD1.8BTTEH	347	0.16	26 20	1800 450
AC-9CD450AEHF	120-277	0.13-0.06		
AC-9CD450BEHF	347	0.05	20 20	450 900
AC-18CD900BDEHG AC-18CD900BTTEG AC18CD900BTBTEG	347	0.07		
AC-35CD1.75ARDR AC-26CD1.75ATS	120-277	0.36-0.16	20	1750
AC-50CD1.4BTMS	347	0.18	36	700-1400
AC-47CD1.8ATPA	120-277	0.46-0.20	26	900-1800
AC-47CD1.8BTPA	347	0.16	26	900-1800

Where "D" after the model number indicates 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 the Standard for Power Supplies with Extra-Low-Voltage Class 2 Outputs, CAN/CSA-C22.2 No. 223.

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.

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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.
3. The drivers were temperature tested in a 55°C oven. The maximum temperature on the enclosure, above T2, was 87.7°C for Model AC-50CD1.4UV-TS AC-50CD1.6UV-TS (represents models and AC-40CD1.4UV-QS), 83.1°C for Model AC833S30-II, 78.6°C for Model AC-21CD1.4UV and AC-15CD440UV AC-15CD440ABNR AC-12CD350ABSZ, 83.1°C for Model AC-60CD2.5UV-QS AC-50CD2.5ARDQ, 86.6°C for Model AC-17C700BM, 88.0°C for model AC-43CD1.8UVBTT (represents AC-23CD1.15UVTS, AC25CD1.05ATEAR and AC32CD1.05AQBAW AC-29CD950AQBKP AC-35C1.0AUA)

Model AC36CD1.8ATBTEH AC-26CD1.75AVC AC-26C1.75AVC (represents models AC-18CD900BDEHG AC-18CD900BTTEG AC18CD900BTBTEG, AC-9CD450AEHF, and AC-9CD450BEHF) was tested in a 50°C ambient. The maximum temperature measured on the enclosure above T2 was 81°C.

Model AC36CD1.8BTBTEH AC-36CD1.8BTTEH (represents model AC-46CD1.7BDTEF AC46CD1.7BDBTEF) was tested in a 40°C ambient. The maximum temperature measured on the enclosure above T2 was 76°C.

Model AC-50CD1.4BTMS (represents model AC-50CD1.4BTMS) was tested in a 55°C ambient. The maximum temperature measured on the enclosure backside of T2 was 71.9°C.

Model AC-47CD1.8ATPA was tested in a 40°C ambient. The maximum temperature measured on the enclosure backside of T2 was 75.0°C.

Model AC-47CD1.8BTPA was tested in a 40°C ambient. The maximum temperature measured on the enclosure backside of T2 was 75.3°C.

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.
8. Models **AC40CD1.05ATBAE** AC-40CD1.05UVTS AC-40CD1.05ATAE AC-40CD1.05ATSD, AC-50CD1.4UV-TS AC-50CD1.6UV-TS AC-50CD1.4ATTR AC-50CD1.4AQM AC-50CD1.4APNZ AC-50CD1.4APBNZ, AC-40CD1.4UV-QS AC-40CD1.67AQCZ AC-40CD1.4AQKE AC-40CD1.4APKV AC-40CD1.4APBKV AC-40CD1.4APMZ

AC-40CD1.4APSC AC-40CD1.4AQRQ AC-40CD1.4ADBQP AC-40CD1.4AQL,
AC-60CD2.5UV-QS AC-50CD2.5ARDQ, AC-15CD440UV AC-15CD440ABNR
AC-12CD350ABSZ, AC-21CD1.4UV, AC-23CD1.15UVTS, AC25CD1.05ATEAR, AC-
43CD1.8UVBTT, AC32CD1.05AQBAAW AC-29CD950AQBKP AC-35C1.0AUA, AC-
50CD1.4BTMS, AC-47CD1.8ATPA and AC-47CD1.8BTPA are provided with a
0-10 V dimming circuit where testing utilized the 10 Volt OC condition
as the worst case output condition.

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9. Models AC-40CD1.05BCW AC-40CD1.05BFN AC-30CD740BLR AC-40CD1.05BTLY, and AC-50CD1.4BTMS 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.