


SPECIFIC TECHNICAL CRITERIA

UL 60950-1:2005 (2nd Edition) Information technology equipment - Safety - Part 1: General requirements	
Report Reference No.....	E132035-A33-UL-2
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Standards	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)
Test procedure	Component Recognition
Non-standard test method	N/A
Test item description	Power Supply, Built-In DC/DC Converter
Trademark	 TDK , <i>TDK-Lambda</i> , <i>TDK-Lambda</i>
Model and/or type reference	CC10-wwxyz#-E (ww: 05, 12, 24 or 48, xx:03, 05 or 12, y: S, z: F or R, #: A to Z or blank) or (ww: 05, 12, 24 or 48, xx: 12, y: D, z: F or R, #: A to Z or blank)
Rating(s)	Input: 4.5 - 9 Vdc (for Model ww: 05) 9 - 18 Vdc (for Model ww: 12) 18 - 36 Vdc (for Model ww: 24) 36 - 76 Vdc (for Model ww: 48) Output: 3.3 - 3.6 Vdc, 2500 mA (for Models CC10-w03Sz#-E) 5 - 6 Vdc, 2000 mA (for Models CC10-ww05Sz#-E) 12 - 15 Vdc, 800 mA (for Model CC10-0512Sz#-E) 12 - 15 Vdc, 1000 mA (for Models CC10-ww12Sz#-E, ww = 12, 24) 12 - 15 Vdc, 900 mA (for Model CC10-4812Sz#-E) ±12 - ±15 Vdc, 400 mA (for Model CC10-0512Dz#-E) ±12 - ±15 Vdc, 450 mA (for Models CC10-ww12Dz#-E, except for ww = 05)

Particulars: test item vs. test requirements

Equipment mobility: for building-in
Connection to the mains: N/A
Operating condition: continuous
Over voltage category: N/A
Mains supply tolerance (%): +5%, -5%
Tested for IT power systems: No
IT testing, phase-phase voltage (V): N/A
Class of equipment: N/A
Mass of equipment (kg): < 10 g
Pollution degree: PD 2
IP protection class: IP X0

Possible test case verdicts:

- test case does not apply to the test object: N / A
- test object does meet the requirement: Pass
- test object does not meet the requirement: Fail (acceptable only if a corresponding, less stringent national requirement is "Pass")

General remarks:

- "(see Enclosure #)" refers to additional information appended to the Test Report
- "(see appended table)" refers to a table appended to the Test Report
- Throughout the Test Report a point is used as the decimal separator

GENERAL PRODUCT INFORMATION:	
CA1.0	Report Summary
CA1.1	N/A
CB1.0	Product Description
CB1.1	These units are component DC/DC Converter with one or two DC outputs and functional insulation.
CC1.0	Model Differences
CC1.1	The differences between Models CC10-wwxyz#-E are ratings. ww: Input voltage (05 = 4.5-9 Vdc, 12 = 9-18 Vdc, 24 = 18-36 Vdc, 48 = 36-76 Vdc) . xx: output voltage (03 = 3.3-3.6 Vdc, 05 = 5-6 Vdc, 12 = 12-15 Vdc). y: Number of output circuit (S = 1, D = 2). z: structural of terminal (F = dip type, R = SMD type). Suffix of # expresses manufacturer's management code, which does not affecting to safety.
CD1.0	Additional Information
CD1.1	Unless otherwise specified, Component Failure Test and SELV Reliability Test were conducted on Models CC10-4812SF-E and CC10-4812DF-E, Heating Test and Transformer Abnormal Operation Test were conducted on Models CC10-0503SF-E and CC10-0512DF-E, Humidity Test was Models CC10-0503SF-E and CC10-4812DF-E. Electric Strength Test for basic insulation between input terminals and output terminals was conducted on the above models.
CE1.0	Technical Considerations
CE2.0	The product was submitted and tested for use at the manufacturer's recommended ambient temperature (Tmra) permitted by the manufacturer's specification of: CC10-wwxxSz#-E (ww: 05,12,24 or 48, xx:03,05 or 12, z: F or R, #: A to Z or blank) 50 , (100 % load), 70 , (40 % load). CC10-wwxxDz#-E (ww: 05,12,24 or 48, xx: 12, z: F or R, #: A to Z or blank) 35 , (100 % load), 75 , (40 % load). --
CE2.1	The component has been tested using dc supply source under 4.5 Vdc up to 76 Vdc input voltage. --
CE2.2	Maximum Working Voltages: 160 Vpk, 107 Vrms. See sub-clause 2.10.2 for details. --
CE2.3	The components provide functional insulation only. --
CF1.0	Engineering Conditions of Acceptability
CF1.1	For use only in or with complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc. When installed in an end-product, consideration must be given to the following:
CF1.5	The following secondary output circuits are SELV: Output of each model.
CF1.7	The following secondary output circuits are at non-hazardous energy levels: Output of each model.,

CF1.13	The investigated Pollution Degree is: 2
CF1.15	Proper bonding to the end-product main protective earthing termination is: Not required
CF1.19	The following end-product enclosures are required: Fire, Electrical
CF2.0	The outputs supply SELV voltages when unit is connected to a Hazardous Secondary Voltage not exceeding 76 Vdc , and the source is separated from PRI by double or reinforced insulation.
CF2.1	A Heating Test shall be considered in end product.
CF2.2	The metal chassis shall be bonded to protective earthing in end product. If not, the insulation coordination shall be reconsidered it in end product.