


SPECIFIC TECHNICAL CRITERIA

UL 60950-1:2005 (2nd Edition) Information technology equipment - Safety - Part 1: General requirements	
Report Reference No.....	E132035-A53-UL-1
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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	 <i>TDK Lambda</i>
Model and/or type reference	CC15-uuwwSyz#-E <The suffixes are below.> uu : 24 or 48 ww : 03, 3.3, 3R3, 05, 5.0, 5R0, 12, 12R, 15 or 15R y : F or R z : P or H # : A to Z or blank
Rating(s)	<Input> 18 - 36Vdc (for Model uu: 24) 36 - 76Vdc (for Model uu: 48) <Output> 3.3Vdc, 4.50A (for Model ww: 03, 3.3 and 3R3) 5.0Vdc, 3.00A (for Model ww: 05, 5.0 and 5R0) 12.0Vdc, 1.25A (for Model ww: 12 and 12R) 15.0Vdc, 1.00A (for Model ww: 15 and 15R)

Particulars: test item vs. test requirements

Equipment mobility: for building-in (component type)
Connection to the mains: N/A
Operating condition: continuous
Over voltage category: OVC II
Mains supply tolerance (%): No direct connection
Tested for IT power systems: No
IT testing, phase-phase voltage (V): N/A
Class of equipment: N/A
Mass of equipment (kg): Approximately 13g (with CASE), Approximately 8.5g (without CASE)
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 components "DC/DC Converter" with only one DC output, providing functional insulation.
CC1.0	Model Differences
CC1.1	The differences between Models CC15-uuwwSyz#-E are ratings as follows. uu: input voltage (See Ratings for detail) ww: output voltage (See Ratings for detail. And 3.3 and 3R3 are identical to 03., 5.0 and 5R0 are identical to 05., 12R identical to 12., 15R identical to 15.) y: structural of terminal (F: DIP type, R: SMD type) z: with/without metal CASE (P: with metal CASE, H: without metal CASE) #: optional code which is not related to safety such as customer code
CD1.0	Additional Information
CD1.1	Maximum Normal Load Condition: See Enclosure Id 7-02. The view of parts layouts in Enclosure - Photographs (3-02 to 3-09) typified the models.
CE1.0	Technical Considerations
CE1.2	The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 85°C (see Enclosure Id 7-02 for details)
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: Outputs of each model
CF1.13	The investigated Pollution Degree is: 2
CF1.19	The following end-product enclosures are required: Fire, Electrical
CF2.0	The power supply source of the unit is intended to a SELV circuit, or a hazardous d.c. voltage (maximum 76Vdc) which was isolated from mains supply by double or reinforced insulation.
CF2.1	Only functional insulation between input/output circuit. which is evaluated by component failure

	test and electric strength test.
CF2.2	All heating tests were conducted on horizontal position. The heating test of the transformer should be performed on actual position in the end product as maximum normal load condition. And it should be confirmed that the temperature of the transformer is lower than 130 degree C.
CF2.3	While testing following external fuses were used and evaluated in input line. Following fuses, same or more rapid trip fuse should be used in input line in the end product. Fuse: SOC Corp., Type 25RF (Listed), 250Vac/125Vdc, 10A; SOC Corp., Type 25CF (R/C), 125Vac/150Vdc, 10A