

UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2011-12-19 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2011-12 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Component Recognition
CCN:	QQGQ2, QQGQ8 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	Power Supply, Built-In DC/DC
Model:	JCA02XXYZZ and JCA03XXYZZ Series (where XX = 05, 12, 24, or 48, Y = S or D, ZZ = can be any two digit number 01-15)
Rating:	Input voltage: JCA02 Series 5Vdc (4.5-9.0Vdc), 700mA 12Vdc (9-18Vdc), 350mA 24Vdc (18-36Vdc), 175mA 48Vdc (36-75Vdc), 100mA JCA03 Series 5Vdc (4.5-9.0Vdc), 1000mA 12Vdc (9-18Vdc), 500mA 24Vdc (18-36Vdc), 250mA 48Vdc (36-75Vdc), 125mA Output: See model differences for details.
Applicant Name and Address:	XP POWER LLC SUITE 150 1241 E DYER RD SANTA ANA CA 92705 UNITED STATES

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

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Reviewed by: Jimmy Tsao

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

- A. Authorization - The Authorization page may include additional Factory Identification Code markings.
- B. Generic Inspection Instructions -
 - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
 - ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
 - iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

The products covered by this report are single and dual output, dc/dc converters. They are provided with input and output connectors (pins) for connection to a source of supply and to the load. All components are mounted on a printed wiring board.

Model Differences

All models within the JCA02 and JCA03 Series were identical with exception to Transformer Winding Ratio and Number of Windings and minor secondary differences to accommodate different output voltages.

Model	V1	Rated	V2	Rated
JCA02XXS03	+3.3V	0.6A		
JCA02XXS05	+5V	0.4A		
JCA02XXS12	+12V	0.17A		
JCA02XXS15	+15V	0.14A		
JCA02XXD01	+5V	0.2A	- 5V	0.2A
JCA02XXD02	+12V	0.085A	-12V	0.085A
JCA02XXD03	+15V	0.07A	-15V	0.07A
JCA03XXS03	+3.3V	0.91A		
JCA03XXS05	+5V	0.6A		
JCA03XXS12	+12V	0.26A		
JCA03XXS15	+15V	0.20A		
JCA03XXD01	+5V	0.3A	- 5V	0.3A
JCA03XXD02	+12V	0.13A	-12V	0.13A
JCA03XXD03	+15V	0.1A	-15V	0.1A

Input: XX indicates input voltage: 05 for 5V(4.5-9.0Vdc), 12 for 12V(9 - 18Vdc), 24 for 24V(18 - 36Vdc) and 48 for 48V(36 -75Vdc).

Suffix "S" = Indicates Single Output
Suffix "D" = Indicates Dual Output

Technical Considerations

- § Equipment mobility : for building-in
- § Connection to the mains : N/A
- § Operating condition : continuous

- § Access location : for building-in
- § Over voltage category (OVC) : N/A
- § Mains supply tolerance (%) or absolute mains supply values : No direct connection
- § Tested for IT power systems : No
- § IT testing, phase-phase voltage (V) : N/A
- § Class of equipment : Special Application - TNV-2
- § Considered current rating of protective device as part of the building installation (A) : -
- § Pollution degree (PD) : 2
- § IP protection class : IP X0
- § Altitude of operation (m) : 3048
- § Altitude of test laboratory (m) : less than 2000 meters
- § Mass of equipment (kg) : 0.02
- § The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of: 75°C
- § The product is intended for use on the following power systems: Regulated DC source.
- § The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A12:2011 (which includes all European national differences, including those specified in this test report)., ,

Engineering Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- § The following Production-Line tests are conducted for this product: Electric Strength
- § The following secondary output circuits are SELV: All outputs
- § The following secondary output circuits are at non-hazardous energy levels: All Outputs
- § The power supply terminals and/or connectors are: Not investigated for field wiring
- § The investigated Pollution Degree is: 2
- § The following end-product enclosures are required: Mechanical, Fire, Electrical
- § The source to these dc/dc converters are intended to be supplied from an isolated source, such as a battery, or a source which meets the requirements for basic (ELV) or reinforced (SELV) insulation from primary (mains) or TNV-2 circuitry, depending on output type required. , , If the input meets all the requirements for ELV, the outputs may be considered ELV. , , If the input meets all the requirements for SELV or TNV-2, then the outputs may be considered SELV. Output voltages remain within SELV limits, even with internally generated non-SELV voltages, if any.
- § The input and output connectors (pins) have not been evaluated for field connections and are only intended for connection to mating connectors of internal wiring inside the end-use machine. The acceptability of these and the mating connectors relative to secureness, insulating materials and temperature shall be considered.
- § The units shall be installed in compliance with the enclosure, mounting, spacing, casualty, and segregation requirements of the end-use application.
- § The need for humidity testing to be considered as part of the end product.

Additional Information

This Test Report is a reissue of CBTR Ref. No. E317867-A29-CB-1, CB Test Certificate Ref. No. DK-19033-A1. Based on previously conducted testing and the review of product technical documentation it was determined that the product complies with the upgrade of the Second Edition of the standard to Amendment 1.

Label provided represents all models.

The label is a draft of an artwork for marking plate pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval.

Additional Standards

The product fulfills the requirements of: CSA C22.2 No. 60950-1-07 + A1:2011, EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011, UL 60950-1 2nd Ed. Revised 2011-12-19

Markings and instructions

Clause Title	Marking or Instruction Details
Power rating - Model	Model Number
Power rating - Ratings	Ratings (voltage, frequency/dc, current)
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number

Special Instructions to UL Representative

N/A