

UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (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:	Switch Mode Power Supply Module
Model:	KPSAx-y
Rating:	x may be replaced with 5, 10 or 15 and represents output power in Watts. y may be replaced with any number between 3.3-24 and represents output voltage. KPSA5-y: 100-240V, 0.25A, 50-60Hz KPSA10-y: 100-240V, 0.5A, 50-60Hz KPSA15-y: 100-240V, 0.5A, 50-60Hz For output ratings see 'Additional information'.
Applicant Name and Address:	TDK-LAMBDA UK LTD KINGSLEY AVE ILFRACOMBE EX34 8ES UNITED KINGDOM

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.

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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 KPSAx-y units are Switch Mode Power Supply Modules for building into host equipment

Model Differences

x may be replaced with 5, 10 or 15 and represents output power in Watts.
y may be replaced with any number between 3.3-24 and represents output voltage.

Technical Considerations

- Equipment mobility : for building-in
- Connection to the mains : for building-in
- Operating condition : continuous
- Access location : for building-in
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : +10%, -10%
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : -
- Class of equipment : Class II (double insulated)
- Considered current rating of protective device as part of the building installation (A) : 20A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : 2000m
- Altitude of test laboratory (m) : 300m
- Mass of equipment (kg) : 50g max.
- The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of: 40°C (Full load); 70°C maximum (output derated 2.5%/°C above 40°C)
- The means of connection to the mains supply is: to be determined in the end application
- The product is intended for use on the following power systems: TN

Issue Date: 2007-10-29
2016-03-25

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E135494-A19-UL

- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): All outputs
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual

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
- The following secondary output circuits are at non-hazardous energy levels: All
- The following secondary output circuits are supplied by a Limited Power Source: All
- The power supply terminals and/or connectors are: Suitable for factory wiring only
- The maximum investigated branch circuit rating is: 20 A
- The investigated Pollution Degree is: 2
- Proper bonding to the end-product main protective earthing termination is: Not required
- The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation system with the indicated rating greater than Class A (105°C): Transformers T1 (Class B).
- The following end-product enclosures are required: Mechanical, Fire
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Model KPSA5-y: Primary-SELV: 225Vrms, 456Vpk, Model KPSA10-y: Primary-SELV: 227Vrms, 440Vpk, Model KPSA15-y: Primary-SELV: 226Vrms, 440Vpk