

## UL TEST REPORT AND PROCEDURE

<b>Standard:</b>	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)
<b>Certification Type:</b>	Component Recognition
<b>CCN:</b>	QQGQ2, QQGQ8 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
<b>Product:</b>	Power Supply, Built-In AC/DC
<b>Model:</b>	MTW30-51212, MTW30-51515, may be followed by a letter
<b>Rating:</b>	Model MTW30-51212 Input: 100 - 240 V ac, 0.8 - 0.4 A, 50 - 60 Hz Output: +5 V dc, 3.0 A (4.5 A Peak) +12 V dc, 1.2 A (2.0 A Peak) -12 V dc, 0.3 A (0.45 A Peak) Total Output 30 W max.  Model MTW30-51515 Input: 100 - 240 V ac, 0.8 - 0.4 A, 50 - 60 Hz Output: +5 V dc, 3.0 A (4.5 A Peak) +15 V dc, 0.8 A (2.0 A Peak) -15 V dc, 0.3 A (0.45 A Peak) Total Output 31.5 W max.
<b>Applicant Name and Address:</b>	TDK-LAMBDA CORP NAGAOKA TECHNICAL CENTER R&D DIV 2704-1 SETTAYA-MACHI NAGAOKA-SHI NIIGATA 940-1195 JAPAN

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: Tetsuo Iwasaki

### 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 product covered by this report is a Switch Mode Power Supply intended for building-in.

### Model Differences

The differences between model MTW30-51515 and model MTW30-51212 are as follows:

1. Transformer (T1) turn ratio, there is no change in construction nor in the insulation system used.
2. The rating of the following secondary components: CR52, CR53, CR55, CR56, CR58, CR59, R63-R65.
3. Output rating.

### Technical Considerations

- Equipment mobility : for building-in
- Connection to the mains : N/A
- Operating condition : continuous
- Access location : operator accessible
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : +6%, -10%
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class I (earthed)
- Considered current rating (A) : 20
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : Up to 3000
- Altitude of test laboratory (m) : Approximately 10 to 20
- Mass of equipment (kg) : < 18
- The means of connection to the mains supply is: To be determined in end product.
- The product is intended for use on the following power systems: TN
- The equipment disconnect device is considered to be: determined in end product.
- The product was submitted and evaluated for use at the maximum ambient temperature (T<sub>ma</sub>) permitted by the manufacturer's specification of: 50°C

**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 end-product Electric Strength Test is to be based upon a maximum working voltage of: 263 Vrms, 444 Vpk for model MTW30-51212 and 278.6 Vrms, 532 Vpk for model MTW30-51515.
- The power supply terminals and/or connectors are: Not investigated for field wiring
- 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: 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): T1 (Class B).
- The following end-product enclosures are required: Fire and Electrical ,
- All secondary output circuits are SELV and non-energy hazardous.
- The maximum continuous wattage output is: 30W for model MTW30-51212 and 31.5W for model MTW30-51515.
- Inductor L1 has been evaluated as suitable for 120 ° C.
- The +12 V and -12 V outputs comply with the limited power source requirements.
- The following secondary output circuits are limited power source: +12 V and -12 V outputs of model MTW30-51212 . +15 V and -15 V outputs of model MTW30-51515.
- Y-Capacitor (C3) may not be provided. Therefore, consideration shall be given in conducting Touch current test in end product application with respect to the variation in Y-Capacitor.

**Additional Information**

N/A

**Markings and instructions**

Clause Title	Marking or Instruction Details
Power rating - Ratings	Ratings (voltage, frequency/dc, current)
Power rating - Model	Model Number
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.