

## UL TEST REPORT AND PROCEDURE

<b>Standard:</b>	UL 60950-1, 1st Edition, 2007-10-31 (Information Technology Equipment - Safety - Part 1: General Requirements)
<b>Certification Type:</b>	Component Recognition
<b>CCN:</b>	NWGQ2 (Information Technology Equipment Including Electrical Business Equipment)
<b>Product:</b>	Integrated circuits with lithium battery reverse charge protection
<b>Model:</b>	MAX16015, MAX16016, MAX16017, MAX16018, MAX16019, MAX16020, MAX16021 MAX16022, MAX16023, MAX16024 followed by LT or PT, followed by A, B or D, followed by L, M, T, S, R, Z, Y, W, V or blank, followed by 12, 15, 18, 25, 30, 33 or blank, followed by +T or blank.  MAX16033, MAX16034, MAX16035, MAX16036, MAX16037, MAX16038, MAX16039 MAX16040 followed by LL or PL, followed by A or B, followed by 23, 26, 29, 31, 44, 46 or blank, followed by +T or blank.
<b>Rating:</b>	Not Required
<b>Applicant Name and Address:</b>	MAXIM INTEGRATED PRODUCTS 120 SAN GABRIEL DR SUNNYVALE CA 94086 UNITED STATES

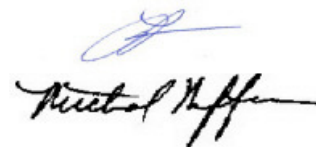
This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up 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 Underwriters Laboratories Inc. ('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

These components are integrated circuit chips that provide lithium battery reverse current protection.

The MAX16015-MAX16021 series are low power  $\mu$ P Supervisory with Battery-Backup Circuits, they are supervisory circuits monitor power supplies, provide battery-backup control, and chip-enable gating to write-protect memory in microprocessor ( $\mu$ P) based systems.

The MAX16022-MAX16024 series are low power Battery-Backup circuits with Regulated Output Voltage, they include a low dropout regulator, a microprocessor ( $\mu$ P) reset circuit, and a battery switchover circuit.

The MAX16033-MAX16040 series are low power Battery-Backup circuits with supervisory circuits for power-supply monitoring and battery control functions in microprocessor ( $\mu$ P) systems.

The MAX16015-MAX16021 series employ 8-pin, 10-pin or 14-pin Epoxy molding compound package.

The MAX16022-MAX16024 series employ 6-pin, 8-pin or 10-pin Epoxy molding compound package.

The MAX16033-MAX16040 series employ 8-pin or 10-pin Epoxy molding compound package.

### Model Differences

The models from MAX16015 to MAX16024 with suffixes have the same hardware except for change in logic circuitry which is SELV function not affecting the battery itself or the charge protection.

The models from MAX16033 to MAX16040 with suffixes have the same hardware except for change in logic circuitry which is SELV function not affecting the battery itself or the charge protection.

### Technical Considerations

- Equipment mobility : for building-in
- Operating condition : intermittent

- Mains supply tolerance (%) : N/A
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class III (supplied by SELV)
- Mass of equipment (kg) : < 18
- Protection against ingress of water : IP X0

**Engineering Conditions of Acceptability**

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:

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These components are intended to be mounted on materials of Flammability Class V-1 or better.

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The maximum ambient temperature (T<sub>ma</sub>) declared by the manufacturer is 85°C, the heating test should be conducted in the end-use application.

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These components are intended for use as components in low voltage isolated secondary circuits where the case temperature is not expected to exceed 95°C and the voltage on any pin relative to ground is not to exceed 5.5 V dc.

**Additional Information**

The nomenclature breakdown of the suffixes provided in Enclosures: Miscellaneous is a partial list; all model number combinations as described under Model and/or type reference section are covered by this report

Correction 1 - To resolve a PER (E141114X1080925634)

- Added Instructions for tests and/or inspections at the factory under Special Instructions to UL Representative

**Additional Standards**

The product fulfills the requirements of: UL 60950-1 1st Ed. Revised 2007-10-31

**Markings and instructions**

Clause Title	Marking or Instruction Details
Power rating - Model	Model Number
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number