

File E211395
Project 11SC04469

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REPORT

On

Component - Protectors, Low-voltage Solid-state Overcurrent

MAXIM INTEGRATED PRODUCTS
SUNNYVALE, CA 94086

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DESCRIPTION

PRODUCT COVERED:

USR: Component - Low voltage solid-state overcurrent protectors, Model MAX14983E.

GENERAL:

This device is a power distribution switch which limit the output current to a safe level when the output lead exceeds the current-limit threshold or a short is present. These devices are designed for special-purpose applications. These devices provide overcurrent and short-circuit protection when supplied by an electrical source.

ELECTRICAL RATINGS:

Model	Input Voltage Range, V dc	Number of Outputs	Continuous Output Rating, mA per output	Protective Current Rating, mA +
MAX14983E	4.75 Vdc to 5.25 Vdc	2 **	55 mA	500 mA

+ (Eng Note: This is the max current the device can interrupt)

** - This unit has two outputs, but only one output can be operated at a time. The Select button on the Evaluation Board was used to switch between the two outputs.

Environmental Ratings

Model	Operating Temperature (°C)	Shipping and Storage Temp (°C)
MAX14983E	-40 to 85°C	-30 to 70°C

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

MAX14983E has additionally been evaluated to IEC 60950-1, Ed 2, Am1, Annex CC, Test Program 2.

Conditions of Acceptability -

For use only in (or with) complete equipment where the acceptability of the combination is determined by UL LLC.

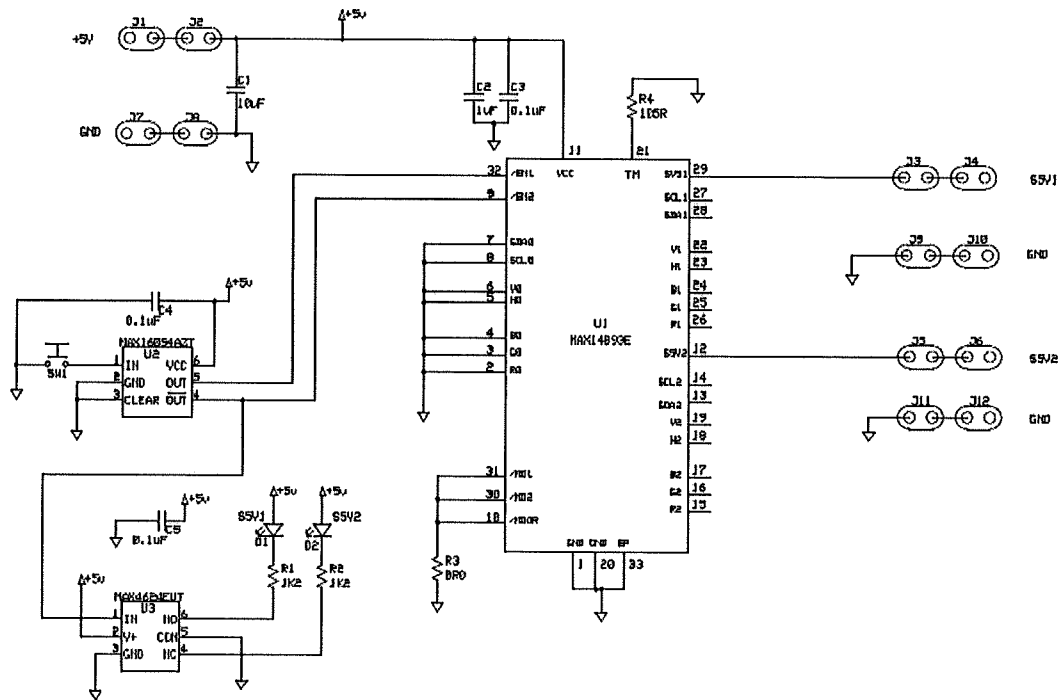
1. These devices are integrated circuits and electrical spacings within the device are not specified.
2. These devices are entirely electronic in nature and have no means for manual operation or reset.
3. The terminals of these devices are for factory wiring only and are intended to be mounted on printed wiring board.
4. These devices have only been evaluated for supplementary overcurrent protection of secondary circuits supplied by the load side of a transformer or battery, and have not been evaluated for branch-circuit protection.
5. These devices have been subjected to environmental conditionings with respect to the following conditions (per UL 2367):
 - Shipping and Storage: -30 to 70°C
 - Thermal Cycling: 0 - +49°C
 - Endurance
 - Abnormal
6. These devices limit currents to values less than the overcurrent protection rating of 5 amperes.
7. These devices have been investigated as electronic overcurrent protective devices in accordance with the requirements contained in Subject 2367 - Outline of Investigation for Solid State Overcurrent Protectors. As a result, use is permitted only on the load-side of an isolating transformer, power supply or battery with maximum levels limited as follows:

Output Voltage (V_{oc})		Output Current (I_{sc})	VA
V_{ac}	V_{dc}	A	(VxA)
≤ 20	≤ 20	$\leq 1000 / V_{oc}$	≤ 250
$20 < V_{oc} \leq 30$	$20 < V_{oc} \leq 30$	$\leq 1000 / V_{oc}$	≤ 250
-	$30 < V_{oc} \leq 60$	$\leq 1000 / V_{oc}$	≤ 250

Use on secondary supply circuits with a higher power capability requires additional evaluation for reliability, such as are contained in the Standard for Safety-Related Controls Employing Solid-State Controls, UL 991.

8. These devices have not been subjected Tests for Telecom applications and their suitability for connection to telecommunication networks with outside plant connections should be determined in the end-use.
9. These devices were evaluated with respect to continuous current operation at the current levels shown in the electrical ratings section of this report.
10. These devices were tested in the circuit shown below.

Model MAX14983E



Malfunction, such as oscillation may occur causing unacceptable results and/or performance if different or no such capacitors are used. If smaller capacitors are used in the end product application, the end product engineer should determine suitability of different capacitance values or the need for re-test.