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Project 12SC04547

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REPORT

On

Component - Protectors, Low-voltage Solid-state Overcurrent

MAXIM INTEGRATED PRODUCTS
AUSTIN, TX 78729

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DESCRIPTION

PRODUCT COVERED:

USR: Component - Low voltage solid-state overcurrent protectors, Models MAX14523AATA+, MAX14523BATA+, and MAX14523BATA/V+T.

GENERAL:

These devices are current-limit switches 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:

Models	Number of Outputs	Input Voltage Range, V dc	Continuous Output Current Rating		Protective Current Rating	
			Rseti=91.78 k Ω	Rseti=563.12 k Ω	Rseti=91.78 k Ω	Rseti=563.12 k Ω
MAX14523AATA+ MAX14523BATA+ MAX14523BATA/ V+T	1	1.7 Vdc to 5.5 Vdc	1350 mA	225 mA	1650 mA	275 mA

Environmental Ratings

Model	Operating Temperature ($^{\circ}$ C)	Shipping and Storage Temp ($^{\circ}$ C)
MAX14523AATA+, MAX14523BATA+, MAX14523BATA/V+T	-40 to 125 $^{\circ}$ C	-30 to 70 $^{\circ}$ C

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

Models MAX14523AATA+, MAX14523BATA+, and MAX14523BATA/V+T have additionally been evaluated to IEC 60950-1, Ed 2, Aml, 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 UL 2367 - Standard 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

CONSTRUCTION DETAILS:

MARKING:

The Recognized Company, trade name, or trademark, catalog number, and Recognized Component Mark  on the smallest package or reel.

Electrical ratings, including voltage range, maximum continuous current, protective current and operating temperatures shall be provided on the manufacturer's device specific datasheet. The datasheet may be web-based provided it is publicly accessible on the internet.

Spacings - No spacing requirements are specified.

Tolerance - Unless otherwise specified, all dimensions are nominal.

Corrosion Protection - All parts are of corrosion resistant material or are suitably plated to resist corrosion.

Current Carrying Parts - Stainless steel, silver, gold, nickel, aluminum, copper or copper alloy. May be plated with tin, lead, silver or gold.

Insulated Housing - Epoxy - R/C (QMFZ2), a high pressure, high temperature molding process, rated 130 °C.

Model differences - All models are similar except MAX14523AATA+ has an auto-retry feature, and MAX14523BATA+ and MAX14523BATA/V+T have a latch-off feature.

ADDITIONAL CONSTRUCTION DETAILS:

Refer to the following Ills. For overall view and dimensional information:

Model Nos.	Ill. No.	Comments
MAX14523AATA+, MAX14523BATA+, and MAX14523BATA/V+T	1	Pin Layout and Package