

RELIABILITY REPORT
FOR
MAX6364HUT23+T
PLASTIC ENCAPSULATED DEVICES

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MAXIM INTEGRATED PRODUCTS

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Conclusion

The MAX6364HUT23+T successfully meets the quality and reliability standards required of all Maxim products. In addition, Maxim's continuous reliability monitoring program ensures that all outgoing product will continue to meet Maxim's quality and reliability standards.

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I. Device Description

A. General

The MAX6361–MAX6364 supervisory circuits reduce the complexity and number of components required for power-supply monitoring and battery control functions in microprocessor (μ P) systems. The circuits significantly improve system reliability and accuracy compared to that obtainable with separate ICs or discrete components. Their functions include μ P reset, backup battery switchover, and power failure warning. The MAX6361–MAX6364 operate from supply voltages as low as +1.2V. The factory-preset reset threshold voltage ranges from 2.32V to 4.63V (see *Ordering Information*). These devices provide a manual reset input (MAX6361), watchdog timer input (MAX6362), battery-on output (MAX6363), and an auxiliary adjustable reset input (MAX6364). In addition, each part type is offered in three reset output versions: an active-low push-pull reset, an active-low open-drain reset, and an active-high open-drain reset (see *Selector Guide* at end of data sheet).

II. Manufacturing Information

A. Description/Function:	SOT23, Low-Power Microprocessor Supervisory Circuits with Battery Backup
B. Process:	B8
C. Number of Device Transistors:	
D. Fabrication Location:	California or Texas
E. Assembly Location:	Malaysia, Philippines, Thailand
F. Date of Initial Production:	January 22, 2000

III. Packaging Information

A. Package Type:	6-pin SOT23
B. Lead Frame:	Copper
C. Lead Finish:	100% matte Tin
D. Die Attach:	Conductive
E. Bondwire:	Au (1 mil dia.)
F. Mold Material:	Epoxy with silica filler
G. Assembly Diagram:	#05-1601-0090
H. Flammability Rating:	Class UL94-V0
I. Classification of Moisture Sensitivity per JEDEC standard J-STD-020-C	Level 1
J. Single Layer Theta Jb:	115°C/W
K. Single Layer Theta Jc:	80°C/W
L. Multi Layer Theta Ja:	n/a
M. Multi Layer Theta Jc:	n/a

IV. Die Information

A. Dimensions:	57 X 35 mils
B. Passivation:	Si ₃ N ₄ /SiO ₂ (Silicon nitride/ Silicon dioxide)
C. Interconnect:	Al/0.5%Cu with Ti/TiN Barrier
D. Backside Metallization:	None
E. Minimum Metal Width:	0.8 microns (as drawn)
F. Minimum Metal Spacing:	0.8 microns (as drawn)
G. Bondpad Dimensions:	5 mil. Sq.
H. Isolation Dielectric:	SiO ₂
I. Die Separation Method:	Wafer Saw

Table 1
Reliability Evaluation Test Results

MAX6364HUT23+T

TEST ITEM	TEST CONDITION	FAILURE IDENTIFICATION	SAMPLE SIZE	NUMBER OF FAILURES
Static Life Test (Note 1)				
	Ta = 135°C Biased Time = 192 hrs.	DC Parameters & functionality	240	2
Moisture Testing (Note 2)				
HAST	Ta = 130°C RH = 85% Biased Time = 96hrs.	DC Parameters & functionality	77	0
Mechanical Stress (Note 2)				
Temperature Cycle	-65°C/150°C 1000 Cycles Method 1010	DC Parameters & functionality	77	0

Note 1: Life Test Data may represent plastic DIP qualification lots.

Note 2: Generic Package/Process data