



4/13/2009

RELIABILITY MONITOR REPORT
FOR

SPM Package

MAXIM Integrated Products

120 San Gabriel Dr.
Sunnyvale, CA 94086

This Report was prepared by
Maxim Reliability Engineering

Summary:

The data in the tables that follow was generated as the result of an on-going Package Reliability Monitor. The specific assemblies included in this package monitor are:

ASSY SITE	PINS PACKAGE
Carsem	48 Single Piece BGA Module w/Battery & Crystal

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 270 FITS: 422.4

The parameters used to calculate this failure rate are as follows:

Cf: 60% Ea: 0.7 Tu: 25 °C

The reliability data follows. At the start of this data is a description of the assembly vehicle used to generate this reliability data. The next section is the detailed reliability data for each stress. The reliability data section includes the latest data available. This report covers data between 10/1/2007 and 9/30/2008.

Assembly Information:

Package Type: Single Piece Module
Date Code Range: 0740 to 0750

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0750	DS12R887	85 C, 3.3 VOLTS	500 HRS	45	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0740	DS12R887	85 C	1000 HRS	77	0	
STORAGE LIFE	0750	DS12R887	85 C	1000 HRS	77	0	
STORAGE LIFE	0750	DS12R887	85 C	1000 HRS	77	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	0740	DS12R887	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	0750	DS12R887	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	0750	DS12R887	-40 TO 85C	1000 CYS	77	0	
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	0740	DS12R887	85/85, 3.5 VOLTS	1000 HRS	45	0	
BIASED MOISTURE	0750	DS12R887	85/85, 3.5 VOLTS	1000 HRS	45	0	

BIASED MOISTURE	0750	DS12R887	85/85, 3.5 VOLTS	1000 HRS	45	0
				Total:		0

FAILURE RATE: **MTTF (YRS): 270** **FITS: 422.4**