



7/19/2012

**RELIABILITY MONITOR REPORT  
FOR**

**LQFP 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	
ATK	64	LQFP (Pb-Free)	Carsem-S 48 LQFP (Pb-Free)

The calculated failure rate for this assembly is:

**FAILURE RATE: MTTF (YRS): 4837 FITS: 23.6**

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 7/1/2011 and 6/30/2012.

**Assembly Information:**

Package Type: LQFP (Pb-Free)

Date Code Range: 1104 to 1129

**OPERATING LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1124	MAX14803CCM+	135C	312 HRS	80	0	
<b>Total:</b>						<b>0</b>	

**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1104	MAX2992	150C	500 HRS	45	0	
<b>Total:</b>						<b>0</b>	

**TEMPERATURE CYCLE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1104	MAX2992	-65C TO 150C	700 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1109	MAX9247ECM/V+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1110	MAX2992	-65C TO 150C	700 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1112	MAX9247ECM/V+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1129	MAX9247ECM/V+	-65C TO 150C	500 CYS	80	0	
<b>Total:</b>						<b>0</b>	

**TEMPERATURE HUMIDITY BIAS**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	1104	MAX2992	130C, 85% R.H.	96 HRS	47	0	
HAST	1104	MAX2992	130C, 85% R.H.	100 HRS	30	0	

HAST	1110	MAX2992	130C, 85% R.H.	96	HRS	47	0
HAST	1110	MAX2992	130C, 85% R.H.	100	HRS	30	0
						<b>Total:</b>	<b>0</b>

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**UNBIASED MOISTURE RESISTANCE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST, NO BIAS	1104	MAX2992	130C, 85% R.H.	96	HRS	77	0
HAST, NO BIAS	1110	MAX2992	130C, 85% R.H.	96	HRS	77	0
						<b>Total:</b>	<b>0</b>

**FAILURE RATE:    MTTF (YRS): 4837    FITS: 23.6**