



7/19/2012

RELIABILITY MONITOR REPORT  
FOR

**BGA 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	ASSY SITE	PINS	PACKAGE
ASE Chung-Li	144	CTBGA (Pb-Free)	ASE Chung-Li	248	CTBGA (Pb-Free)

The calculated failure rate for this assembly is:

**FAILURE RATE: MTTF (YRS): 25192 FITS: 4.5**

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: CTBGA (Pb-Free)

Date Code Range: 1049 to 1051

**OPERATING LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1050	MAX2079CXE+	135C	1000 HRS	45	0	
HIGH TEMP OP LIFE	1051	MAX2079CXE+	135C	1000 HRS	42	0	
HIGH TEMP OP LIFE	1051	MAX2079CXE+	135C	1000 HRS	43	0	
<b>Total:</b>						<b>0</b>	

**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1050	MAX2079CXE+	150C	1000 HRS	77	0	
STORAGE LIFE	1051	MAX2079CXE+	150C	1000 HRS	76	0	
STORAGE LIFE	1051	MAX2079CXE+	150C	1000 HRS	77	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	1050	MAX2079CXE+	-65C TO 150C	1000 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1051	MAX2079CXE+	-65C TO 150C	1000 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1051	MAX2079CXE+	-65C TO 150C	1000 CYS	77	0	
<b>Total:</b>						<b>0</b>	

**TEMPERATURE HUMIDITY BIAS**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	1049	MAX64180CXO+	110C, 85% R.H., 1.05V / 1.8V / 3.3V	264 HRS	45	0	

**Total: 0**

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**UNBIASED MOISTURE RESISTANCE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1050	MAX2079CXE+	85 C/85% R.H.	1000 HRS	45	0	
MOISTURE SOAK	1051	MAX2079CXE+	85 C/85% R.H.	1000 HRS	45	0	
MOISTURE SOAK	1051	MAX2079CXE+	85 C/85% R.H.	1000 HRS	43	0	
				<b>Total:</b>		<b>0</b>	

**FAILURE RATE: MTTF (YRS): 25192 FITS: 4.5**