



1/25/2008

**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 (Amkor, K)	100	LQFP	ATK (Amkor, K)	48 LQFP (Pb-Free)
ATP (Amkor, PI)	100	LQFP	SCS (StatsChipPac Si	128 LQFP (Pb-Free)
UNK	48	LQFP	UNK	64 LQFP

The calculated failure rate for this assembly is:

**FAILURE RATE: MTTF (YRS): 89301 FITS: 1.3**

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 and

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**Assembly Information:**

Package Type: LQFP  
 Flammability: UL 94-V0  
 Date Code Range: 0538 to 0725

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**OPERATING LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0538	MAX4800CC	135C, 5.25V M	1000 HRS	44	0	
HIGH TEMP OP LIFE	0544	MAX4800CC	135C, 5.25V M	1000 HRS	44	0	
HIGH TEMP OP LIFE	0644	DS2154	125C, 5.25 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0702	DS2155	125C, 3.5 VOLTS	1000 HRS	77	0	
			125C, 3.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0709	DS2155	125C, 3.5 VOLTS	1000 HRS	77	0	
			125C, 3.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0712	DS2155	125C, 3.5 VOLTS	1000 HRS	77	0	
			125C, 3.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0725	MAX5774UC	135C, 5.25V B+	1000 HRS	46	0	
<b>Total:</b>						<b>0</b>	

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**TEMPERATURE CYCLE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0702	DS2155	-55C TO 125C	1000 CYS	77	0	
			-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0709	DS2155	-55C TO 125C	1000 CYS	77	0	
			-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0712	DS2155	-55C TO 125C	1000 CYS	75	0	
			-55C TO 125C	1000 CYS	75	0	

**Total: 0**

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**TEMPERATURE HUMIDITY BIAS**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0702	DS2155	130C, 85%R.H.,3.5V	96	HRS	45	0
			130C, 85%R.H.,3.5V	96	HRS	45	0
HAST	0709	DS2155	130C, 85%R.H.,3.5V	96	HRS	45	0
			130C, 85%R.H.,3.5V	96	HRS	45	0
HAST	0712	DS2155	130C, 85%R.H.,3.5V	96	HRS	45	0
			130C, 85%R.H.,3.5V	96	HRS	45	0
<b>Total:</b>						<b>0</b>	

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**Assembly Information:**

Package Type: LQFP (Pb-Free)  
Flammability: UL 94-V0  
Date Code Range: 0710 to 0724

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**OPERATING LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0710	DS21448	125C, 3.5 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0724	DS8007	125C, 6.0 VOLTS	1000	HRS	45	0
			125C, 6.0 VOLTS	1000	HRS	45	0
<b>Total:</b>						<b>0</b>	

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**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0710	DS21448	150C	1000	HRS	77	0
<b>Total:</b>						<b>0</b>	

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**TEMPERATURE CYCLE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0710	DS21448	-55C TO 125C	1000	CYS	77	0
<b>Total:</b>						<b>0</b>	

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**TEMPERATURE HUMIDITY BIAS**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	0710	DS21448	85/85, 3.5 VOLTS	1000	HRS	45	0
<b>Total:</b>						<b>0</b>	

**FAILURE RATE: MTTF (YRS): 89301 FITS: 1.3**