

4/23/2015



RELIABILITY MONITOR REPORT
FOR

QFP Package

MAXIM INTEGRATED

160 RIO ROBLES
SAN JOSE, CA 95134

This Report was prepared by
MAXIM INTEGRATED 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)	80	TQFP (Pb-Free)	ATK (Amkor, K)	48 TQFP-EP (Pb-Free)
Carsem-S	48	LQFP (Pb-Free)		

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 28680 FITS: 4.0

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 4/1/2014 and 3/31/2015.

Assembly Information:

Package Type: LQFP (Pb-Free)
Date Code Range: 1406 to 1406

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1406	MAX14803CCM+	-65C TO +150C (Condition C)	1000 CYS	80	0	
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1406	MAX14803CCM+	130C, 85% R.H.	100 HRS	34	0	
Total:						0	

Assembly Information:

Package Type: TQFP (Pb-Free)
Date Code Range: 1427 to 1427

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1427	MAX14921ECS+	135°C	1000 HRS	80	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1427	MAX14921ECS+	150°C	1000 HRS	80	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
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TEMP CYCLE, 5' RAMP, 10' DWELL	1427	MAX14921ECS+	-65C TO +150C (Condition C)	500	CYS	80	0
Total:							0

Assembly Information:

Package Type: TQFP-EP (Pb-Free)
 Date Code Range: 1432 to 1432

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1432	MAX3815CCM	135°C	500	HRS	47	0
HIGH TEMP OP LIFE	1432	MAX3815CCM+	135°C	1000	HRS	46	0
Total:							0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1432	MAX3815CCM+	-65C TO +150C (Condition C)	200	CYS	99	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1432	MAX3815CCM+	-65C TO +150C (Condition C)	1000	CYS	99	0
Total:							0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1432	MAX3815CCM+	130C, 85% R.H.	96	HRS	46	0
Total:							0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1432	MAX3815CCM+	130C, 85% R.H.	96	HRS	200	0
Total:							0

FAILURE RATE: MTTF (YRS): 28680 FITS: 4.0