



7/19/2012

**RELIABILITY MONITOR REPORT
FOR**

SOT 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-M	5	SOT23 (Pb-Free)	Carsem-M	8 SOT23 (Pb-Free)
Carsem-M	6	SOT23 Flip Chip	Cirtek	3 SOT223 (Pb-Free)
UTL	3	SOT23 (Pb-Free)	UTL	5 SOT23 (Pb-Free)
UTL	6	SOT23 (Pb-Free)	UTL	8 SOT23 (Pb-Free)

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 74653 FITS: 1.5

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: SOT223 (Pb-Free)

Date Code Range: 1132 to 1132

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1132	DS1233	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	1132	DS1233	125C, 5.5 VOLTS	1000 HRS	77	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1132	DS1233	150C	1000 HRS	77	0	
STORAGE LIFE	1132	DS1233	150C	1000 HRS	77	0	
STORAGE LIFE	1132	DS1233	150C	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	1132	DS1233	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1132	DS1233	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1132	DS1233	-55C TO 125C	1000 CYS	77	0	
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
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HAST	1132	DS1233	130C, 85%R.H., 5.5V	96	HRS	77	0
HAST	1132	DS1233	130C, 85%R.H., 5.5V	96	HRS	77	0
HAST	1132	DS1233	130C, 85%R.H., 5.5V	96	HRS	77	0
Total:							0

Assembly Information:

Package Type: SOT23 (Pb-Free)

Date Code Range: 1013 to 1208

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1110	MAX15070AAUT+	135C	500 HRS	78	0	
HIGH TEMP OP LIFE	1122	MAX9647AUK+T	135C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1124	MAX44251AKA+	135C	192 HRS	80	0	
HIGH TEMP OP LIFE	1144	MAX6316LUK31BX+	135C	1000 HRS	90	0	
Total:							0

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1046	MAX6801UR44D3+T	150C	1000 HRS	50	0	
STORAGE LIFE	1110	MAX15070AAUT+	150C	1000 HRS	78	0	
STORAGE LIFE	1113	MAX6414UK46+	150C	500 HRS	50	0	
STORAGE LIFE	1133	MAX6753KA30/V+	150C	1000 HRS	49	0	
STORAGE LIFE	1143	MAX6320PUK29DY+	150C	1000 HRS	50	0	
STORAGE LIFE	1147	MAX6753KA30/V+	150C	1000 HRS	50	0	
STORAGE LIFE	1152	MAX4791EUK/V+T	150C	500 HRS	45	0	
STORAGE LIFE	1201	MAX8880EUT+	150C	1000 HRS	50	0	
Total:							0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1013	MAX6418UK46+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1017	MAX6753KA31+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1113	MAX6414UK46+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1133	MAX6753KA30/V+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1143	MAX6320PUK29DY+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1144	MAX6316LUK31BX+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1146	MAX6753KA29+	-65C TO 150C	500 CYS	80	0	

TEMP CYCLE, 5' RAMP, 10' DWELL	1147	MAX6753KA30/V+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1147	MAX6753KA30/V+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1147	MAX6753KA30/V+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1147	MAX6319LHUK46C+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1151	MAX4791EUK/V+T	-65C TO 150C	500	CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1152	MAX4791EUK/V+T	-65C TO 150C	500	CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1201	MAX8880EUT+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1204	MAX8880EUT+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1208	MAX6318MHUK46C Y+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1208	MAX6322HPUK46C+	-65C TO 150C	500	CYS	80	0
Total:						0	0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1013	MAX6418UK46+	130C, 85% R.H.	100	HRS	80	0
BIASED MOISTURE	1017	MAX6753KA31+	130C, 85% R.H.	100	HRS	33	0
BIASED MOISTURE	1113	MAX6414UK46+	130C, 85% R.H.	100	HRS	80	0
BIASED MOISTURE	1143	MAX6320PUK29DY+	130C, 85% R.H.	96	HRS	80	0
BIASED MOISTURE	1144	MAX6316LUK31BX+	130C, 85% R.H.	100	HRS	80	0
BIASED MOISTURE	1146	MAX6753KA29+	130C, 85% R.H.	100	HRS	47	0
BIASED MOISTURE	1147	MAX6753KA30/V+	130C, 85% R.H.	96	HRS	37	0
BIASED MOISTURE	1147	MAX6753KA30/V+	130C, 85% R.H.	96	HRS	32	0
BIASED MOISTURE	1147	MAX6753KA30/V+	130C, 85% R.H.	96	HRS	32	0
BIASED MOISTURE	1147	MAX6319LHUK46C+	130C, 85% R.H.	96	HRS	80	0
BIASED MOISTURE	1208	MAX6322HPUK46C+	130C, 85% R.H.	100	HRS	80	0
Total:						0	0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1013	MAX6418UK46+	130C, 85% R.H.	100	HRS	80	0
MOISTURE SOAK	1017	MAX6753KA31+	130C, 85% R.H.	100	HRS	80	0
MOISTURE SOAK	1113	MAX6414UK46+	130C, 85% R.H.	100	HRS	80	0
MOISTURE SOAK	1143	MAX6320PUK29DY+	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK	1144	MAX6316LUK31BX+	130C, 85% R.H.	100	HRS	80	0
MOISTURE SOAK	1146	MAX6753KA29+	130C, 85% R.H.	100	HRS	80	0

MOISTURE SOAK	1147	MAX6753KA30/V+	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK	1147	MAX6753KA30/V+	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK	1147	MAX6753KA30/V+	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK	1208	MAX6322HPUK46C+	130C, 85% R.H.	100	HRS	80	0
Total:							0

Assembly Information:

Package Type: SOT23 Flip Chip

Date Code Range: 1127 to 1127

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1127	MAX1818EUT25#G1 6	135C	1000 HRS	50	0	
HIGH TEMP OP LIFE	1127	MAX1818EUT25#G1 6	135C	1000 HRS	50	0	
HIGH TEMP OP LIFE	1127	MAX1818EUT25#G1 6	135C	1000 HRS	50	0	
Total:							0

FAILURE RATE: MTTF (YRS): 74653 FITS: 1.5