



4/17/2012

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	6 SOT23 (Pb-Free)
Carsem-M	8	SOT23 (Pb-Free)	Carsem-M	6 SOT23 Flip Chip
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): 68142 FITS: 1.7

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 4/1/2011 and 3/31/2012.

Assembly Information:

Package Type: SOT23 (Pb-Free)

Date Code Range: 1013 to 1204

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1044	MAX5048BAUT+	135C	1000 HRS	45	0	
HIGH TEMP OP LIFE	1105	DS3920	135C, 75V (V8)	192 HRS	77	0	
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	1147	MAX6753KA30/V+	150C	1000 HRS	50	0	
STORAGE LIFE	1201	MAX8880EUT+	150C	500 HRS	50	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	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	1030	MAX6008AEUR+	-65C TO 150C	1000	CYS	67	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1030	MAX6008AEUR+	-65C TO 150C	1000	CYS	65	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1030	MAX6008AEUR+	-65C TO 150C	1000	CYS	67	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	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	1201	MAX8880EUT+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1204	MAX8880EUT+	-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	1017	MAX6753KA31+	130C, 85% R.H.	100	HRS	47	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
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
Total:							0

Assembly Information:

Package Type: SOT23 Flip Chip
Date Code Range: 1101 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

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1101	MAX1832EUT#TG16	150C	1000 HRS	78	0	
STORAGE LIFE	1101	MAX1832EUT#TG16	150C	1000 HRS	78	0	
Total:							0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1101	MAX1832EUT#TG16	-65C TO 150C	1000 CYS	78	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1101	MAX1832EUT#TG16	-65C TO 150C	1000 CYS	78	0	
Total:							0

FAILURE RATE: MTTF (YRS): 68142 FITS: 1.7