

10/23/2014



RELIABILITY MONITOR REPORT
FOR

SOT 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		
ATP (Amkor, PI)	6	SOT23 (Pb-Free)	Carsem-M	3 SOT23 (Pb-Free)
Carsem-M	6	SOT23 (Pb-Free)	TERAPROBE/ATP	6 SOT23 (Pb-Free)
TERAPROBE/ATP	6	SOT23-FC (Pb-Free)	UTL (NSEB) UTAC	6 SOT23
UTL (NSEB) UTAC	3	SOT23 (Pb-Free)	UTL (NSEB) UTAC	5 SOT23 (Pb-Free)
UTL (NSEB) UTAC	6	SOT23 (Pb-Free)		

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 43993 FITS: 2.6

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 10/1/2013 and 9/30/2014.

Assembly Information:

Package Type: SOT23
Date Code Range: 1405 to 1421

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1405	MAX16945TGU#TG1 6	150°C	1000 HRS	80	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1405	MAX16945TGUT#TG16	-65C TO +150C (Condition C)	1000 CYS	79	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1406	MAX1697TEUT+T	-65C TO +150C (Condition C)	1000 CYS	74	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1421	MAX16945TGUT#TG16	-65C TO +150C (Condition C)	700 CYS	79	0	
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1405	MAX16945TGU#TG1 6	130C, 85% R.H.	100 HRS	80	0	
Total:						0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1405	MAX16945TGU#TG1 6	130C, 85% R.H.	100 HRS	80	0	

Total: 0

Assembly Information:

Package Type: SOT23 (Pb-Free)

Date Code Range: 1308 to 1424

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1308	MAX6008AEUR/V+	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1313	MAX15070AAUT+	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1331	MAX6070BAUT12/V+ T	135°C	1000 HRS	78	0	
HIGH TEMP OP LIFE	1333	MAX8880EUT+T	135°C	1000 HRS	76	1	
HIGH TEMP OP LIFE	1333	MAX8880EUT+T	135°C	1000 HRS	77	0	
HIGH TEMP OP LIFE	1333	MAX8880EUT+T	135°C	1000 HRS	77	0	
HIGH TEMP OP LIFE	1341	MAX6070BAUT12/V+ T	135°C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1342	MAX44284HAUT+	135°C	192 HRS	79	0	
HIGH TEMP OP LIFE	1344	MAX5048BAUT+	135°C	1000 HRS	48	0	
HIGH TEMP OP LIFE	1345	MAX6008AEUR/V+	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1345	MAX6008AEUR/V+	135°C	192 HRS	79	0	
HIGH TEMP OP LIFE	1415	MAX6070BAUT12/V+ T	135°C	1000 HRS	80	0	
Total:						1	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1308	MAX6008AEUR/V+	150°C	500 HRS	50	0	
STORAGE LIFE	1331	MAX6070BAUT12/V+ T	150°C	1000 HRS	80	0	
STORAGE LIFE	1333	MAX8880EUT+T	150°C	1000 HRS	80	0	
STORAGE LIFE	1333	MAX8880EUT+T	150°C	1000 HRS	80	0	
STORAGE LIFE	1333	MAX8880EUT+T	150°C	1000 HRS	80	0	
STORAGE LIFE	1341	MAX6070BAUT12/V+ T	150°C	1000 HRS	50	0	
STORAGE LIFE	1344	MAX5048BAUT+	150°C	1000 HRS	80	0	
STORAGE LIFE	1406	MAX1697TEUT+T	150°C	1000 HRS	80	0	
STORAGE LIFE	1415	MAX6070BAUT12/V+	150°C	1000 HRS	50	0	
STORAGE LIFE	1415	MAX6070BAUT12/V+	150°C	1000 HRS	50	0	
STORAGE LIFE	1415	MAX6070BAUT12/V+ T	150°C	1000 HRS	50	0	
STORAGE LIFE	1423	MAX44259AUK+	150°C	500 HRS	80	0	
STORAGE LIFE	1423	MAX44259AUK+	150°C	500 HRS	80	0	
STORAGE LIFE	1424	MAX44259AUK+	150°C	500 HRS	80	0	

Total: 0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1331	MAX6070BAUT12/V+ T	-65C TO +150C (Condition C)	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1333	MAX8880EUT+T	-65C TO +150C (Condition C)	1000 CYS	45	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1333	MAX8880EUT+T	-65C TO +150C (Condition C)	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1333	MAX8880EUT+T	-65C TO +150C (Condition C)	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1341	MAX6070BAUT12/V+ T	-65C TO +150C (Condition C)	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1344	MAX5048BAUT+	-65C TO +150C (Condition C)	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1345	MAX6008AEUR/V+	-65C TO +150C (Condition C)	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1345	MAX6008AEUR/V+	-65C TO +150C (Condition C)	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1406	MAX1697TEUT+T	-65C TO +150C (Condition C)	1000 CYS	79	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1415	MAX6070BAUT12/V+ T	-65C TO +150C (Condition C)	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1415	MAX6070BAUT12/V+ T	-65C TO +150C (Condition C)	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1415	MAX6070BAUT12/V+ T	-65C TO +150C (Condition C)	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1423	MAX44259AUK+	-65C TO +150C (Condition C)	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1423	MAX44259AUK+	-65C TO +150C (Condition C)	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1424	MAX44259AUK+	-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	1331	MAX6070BAUT12/V+ T	130C, 85% R.H.	100 HRS	80	0	
BIASED MOISTURE	1341	MAX6070BAUT12/V+ T	130C, 85% R.H.	100 HRS	80	0	
BIASED MOISTURE	1344	MAX5048BAUT+	130C, 85% R.H.	100 HRS	79	0	
BIASED MOISTURE	1345	MAX6008AEUR/V+	130C, 85% R.H.	100 HRS	80	0	
BIASED MOISTURE	1345	MAX6008AEUR/V+	130C, 85% R.H.	100 HRS	80	0	
BIASED MOISTURE	1406	MAX1697TEUT+T	130C, 85% R.H.	100 HRS	80	0	
BIASED MOISTURE	1415	MAX6070BAUT12/V+ T	130C, 85% R.H.	96 HRS	80	0	
BIASED MOISTURE	1415	MAX6070BAUT12/V+ T	130C, 85% R.H.	96 HRS	80	0	
Total:						0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1331	MAX6070BAUT12/V+ T	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1333	MAX8880EUT+T	85 C/85% R.H.	1000 HRS	45	0	
MOISTURE SOAK	1333	MAX8880EUT+T	85 C/85% R.H.	1000 HRS	45	0	
MOISTURE SOAK	1333	MAX8880EUT+T	85 C/85% R.H.	1000 HRS	45	0	
MOISTURE SOAK	1341	MAX6070BAUT12/V+ T	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1345	MAX6008AEUR/V+	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1345	MAX6008AEUR/V+	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1406	MAX1697TEUT+T	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1415	MAX6070BAUT12/V+ T	130C, 85% R.H.	96 HRS	80	0	
MOISTURE SOAK	1415	MAX6070BAUT12/V+ T	130C, 85% R.H.	96 HRS	80	0	
MOISTURE SOAK	1415	MAX6070BAUT12/V+ T	130C, 85% R.H.	96 HRS	80	0	
Total:						0	

Assembly Information:

Package Type: SOT23-FC (Pb-Free)

Date Code Range: 1418 to 1418

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1418	MAX5048BAUT+T	150°C	1000 HRS	80	0	
STORAGE LIFE	1418	MAX5048BAUT+T	150°C	1000 HRS	80	0	
STORAGE LIFE	1418	MAX5048BAUT+T	150°C	1000 HRS	80	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1418	MAX5048BAUT+T	-65C TO +150C (Condition C)	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1418	MAX5048BAUT+T	-65C TO +150C (Condition C)	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1418	MAX5048BAUT+T	-65C TO +150C (Condition C)	1000 CYS	80	1	
Total:						1	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1418	MAX5048BAUT+T	130C, 85% R.H.	100 HRS	80	0	
BIASED MOISTURE	1418	MAX5048BAUT+T	130C, 85% R.H.	100 HRS	80	0	
BIASED MOISTURE	1418	MAX5048BAUT+T	130C, 85% R.H.	100 HRS	78	0	
Total:						0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1418	MAX5048BAUT+T	130C, 85% R.H.	300	HRS	76	0
MOISTURE SOAK	1418	MAX5048BAUT+T	130C, 85% R.H.	300	HRS	79	0
MOISTURE SOAK	1418	MAX5048BAUT+T	130C, 85% R.H.	300	HRS	79	0
					Total:	0	0

FAILURE RATE: MTTF (YRS): 43993 FITS: 2.6