7/11/2018

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 specifc assemblies included in this package monitor are:

ASSY SITE	PINS	PACKAGE			
ATP (Amkor, PI)	6	TSOT (Pb-Free)	Carsem-M	3	SOT23 (Pb-Free)
Carsem-M	6	SOT23 (Pb-Free)	Carsem-M	7	SOT23 (Pb-Free)
Carsem-M	8	SOT23 (Pb-Free)	Greatek	5	SOT23 (Pb-Free)
Greatek	6	SOT23 (Pb-Free)	Greatek	8	SOT23 (Pb-Free)
Greatek	56	SOT23 (Pb-Free)	UTL (NSEB) UTAC	6	SOT23 (Pb-Free)
UTL (NSEB) UTAC	8	SOT23 (Pb-Free)			

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 261206 FITS: 0.4

The parameters used to calculate this failure rate are as follows:

Cf: 60% Ea: 0.7 Tu: 25 °C

The reliability data follows. A 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 4/1/2018 and 6/30/2018 .

Assembly Information:

Package Type: SOT23 (Pb-Free)

Date Code Range: 1646 to 1751

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1648	MAX16135HRB/V+T	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1648	MAX16135HRB/V+T	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1648	MAX16135HRB/V+T	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1704	MAX40010FAUT+	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1710	MAX2640AUT+	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1714	MAX40088AUT+	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1720	MAX17840AGUN/V+CQ	135°C	1000 HRS	10	0	
HIGH TEMP OP LIFE	1722	MAX44251AKA+T	135°C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1727	MAX9017AEKA/V+T	135°C	1000 HRS	77	0	
HIGH TEMP OP LIFE	1727	MAX9017AEKA/V+T	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1727	MAX9017AEKA/V+T	135°C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1733	MAX16133LFM/V+	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1733	MAX16133LFM/V+	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1733	MAX16133LFM/V+	135°C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1738	MAX6414UK31/V+	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1738	MAX6414UK31/V+	135°C	192 HRS	80	0	

HIGH TEMP OP LIFE	1741	MAX2640AUT+T	135°C	1000	HRS	78	0	
HIGH TEMP OP LIFE	1744	MAX5026EUT+	135°C	500	HRS	79	0	
HIGH TEMP OP LIFE	1751	MAX6035AAUR50+T	135°C	1000	HRS	45	0	
					Total:		**0**	

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT		QUANTITY	FAILS	FA NO
CONVECTION REFLOW	1646	MAX16984RATI/VY+	260C +0/-5C	3	PASS	396	0	
CONVECTION REFLOW	1710	MAX2640AUT+	260C +0/-5C	3	PASS	309	0	
CONVECTION REFLOW	1722	MAX44251AKA+T	260C +0/-5C	3	PASS	305	0	
CONVECTION REFLOW	1727	MAX9017AEKA/V+T	260C +0/-5C	3	PASS	498	0	
CONVECTION REFLOW	1727	MAX9017AEKA/V+T	260C +0/-5C	3	PASS	499	0	
CONVECTION REFLOW	1727	MAX9017AEKA/V+T	260C +0/-5C	3	PASS	483	0	
CONVECTION REFLOW	1733	MAX16133LFM/V+	260C +0/-5C	3	PASS	450	0	
CONVECTION REFLOW	1733	MAX16133LFM/V+	260C +0/-5C	3	PASS	450	0	
CONVECTION REFLOW	1733	MAX16133LFM/V+	260C +0/-5C	3	PASS	450	0	
CONVECTION REFLOW	1741	MAX2640AUT+T	260C +0/-5C	3	PASS	320	0	
CONVECTION REFLOW	1743	MAX6750KA30/V+	260C +0/-5C	3	PASS	500	0	
CONVECTION REFLOW	1751	MAX6035AAUR50+T	260C +0/-5C	3	PASS	320	0	
					Total:		**0**	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT		QUANTITY	FAILS	FA NO
STORAGE LIFE	1648	MAX16135HRB/V+T	150°C	1000	HRS	80	0	
STORAGE LIFE	1648	MAX16135HRB/V+T	150°C	1000	HRS	80	0	
STORAGE LIFE	1648	MAX16135HRB/V+T	150°C	1000	HRS	80	0	
STORAGE LIFE	1710	MAX2640AUT+	150°C	1000	HRS	80	0	
STORAGE LIFE	1722	MAX44251AKA+T	150°C	1000	HRS	80	0	
STORAGE LIFE	1733	MAX16133LFM/V+	150°C	500	HRS	80	0	
STORAGE LIFE	1733	MAX16133LFM/V+	150°C	500	HRS	80	0	
STORAGE LIFE	1733	MAX16133LFM/V+	150°C	500	HRS	80	0	
STORAGE LIFE	1741	MAX2640AUT+T	150°C	1000	HRS	80	0	
STORAGE LIFE	1744	MAX5026EUT+	150°C	1000	HRS	90	0	
STORAGE LIFE	1744	MAX3295AUT+T	150°C	1000	HRS	90	0	
STORAGE LIFE	1751	MAX6035AAUR50+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	1648	MAX16135HRB/V+T	-65C TO +150C (Condition C)	500	CYS	80	0	

TEMP CYCLE, 5' RAMP, 10' DWELL	1648	MAX16135HRB/V+T	-65C TO +150C (Condition C)	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1648	MAX16135HRB/V+T	-65C TO +150C (Condition C)	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1710	MAX2640AUT+	-65C TO +150C (Condition C)	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1722	MAX44251AKA+T	-65C TO +150C (Condition C)	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1727	MAX9017AEKA/V+T	-65C TO +150C (Condition C)	1000	CYS	90	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1727	MAX9017AEKA/V+T	-65C TO +150C (Condition C)	1000	CYS	90	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1727	MAX9017AEKA/V+T	-65C TO +150C (Condition C)	1000	CYS	90	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1741	MAX2640AUT+T	-65C TO +150C (Condition C)	1000	CYS	79	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1743	MAX6750KA30/V+	-65C TO +150C (Condition C)	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1743	MAX6750KA30/V+	-65C TO +150C (Condition C)	1000	CYS	79	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1744	MAX5026EUT+	-65C TO +150C (Condition C)	500	CYS	100	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1744	MAX3295AUT+T	-65C TO +150C (Condition C)	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1751	MAX6035AAUR50+T	-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	1710	MAX2640AUT+	130C, 85% R.H.	96	HRS	80	0	
BIASED MOISTURE	1722	MAX44251AKA+T	130C, 85% R.H.	96	HRS	80	0	
BIASED MOISTURE	1727	MAX9017AEKA/V+T	130C, 85% R.H.	96	HRS	80	0	
BIASED MOISTURE	1727	MAX9017AEKA/V+T	130C, 85% R.H.	96	HRS	80	0	
BIASED MOISTURE	1733	MAX16133LFM/V+	85 C/85% R.H.	96		10	0	
BIASED MOISTURE	1741	MAX2640AUT+T	85 C/85% R.H.	96	HRS	80	0	
BIASED MOISTURE	1743	MAX6750KA30/V+	85 C/85% R.H.	96		80	0	
BIASED MOISTURE	1743	MAX6750KA30/V+	85 C/85% R.H.	96		80	0	
BIASED MOISTURE	1744	MAX5026EUT+	85 C/85% R.H.	96		80	0	
BIASED MOISTURE	1744	MAX3295AUT+T	85 C/85% R.H.	96		80	0	
BIASED MOISTURE	1751	MAX6035AAUR50+T	85 C/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	1727	MAX9017AEKA/V+T	130C, 85% R.H.	96	HRS	80	0	
MOISTURE SOAK	1727	MAX9017AEKA/V+T	130C, 85% R.H.	96	HRS	80	0	

MOISTURE SOAK	1727	MAX9017AEKA/V+T	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK	1743	MAX6750KA30/V+	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK	1743	MAX6750KA30/V+	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK	1744	MAX5026EUT+	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK	1744	MAX3295AUT+T	130C, 85% R.H.	96	HRS	80	0
					Total:		**0**

Assembly Information:

Package Type: TSOT (Pb-Free)

Date Code Range: 1642 to 1642

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT		QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1642	MAX6896AAZT/V+	135°C	1000	HRS	80	0	
HIGH TEMP OP LIFE	1642	MAX6896AAZT/V+	135°C	1000	HRS	80	0	
HIGH TEMP OP LIFE	1642	MAX6896AAZT/V+	135°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	1642	MAX6896AAZT/V+	-65C TO +150C (Condition C)	1000	CYS	84	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1642	MAX6896AAZT/V+	-65C TO +150C (Condition C)	1000	CYS	85	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1642	MAX6896AAZT/V+	-65C TO +150C (Condition C)	1000	CYS	85	0	
					Total:		**0**	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT		QUANTITY	FAILS	FA NO
MOISTURE SOAK	1642	MAX6896AAZT/V+	130C, 85% R.H.	96	HRS	80	0	
MOISTURE SOAK	1642	MAX6896AAZT/V+	130C, 85% R.H.	96	HRS	79	0	
MOISTURE SOAK	1642	MAX6896AAZT/V+	130C, 85% R.H.	96	HRS	80	0	
					Total:		**0**	

FAILURE RATE: MTTF (YRS): 261206 FITS: 0.4