



7/19/2012

RELIABILITY MONITOR REPORT
FOR

TSSOP 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		
ATP	16	TSSOP Exposed Pad (Pb-Free)	ATP	20 TSSOP Exposed Pad (Pb-Free)
ATP	28	TSSOP Exposed Pad (Pb-Free)	Carsem-M	20 TSSOP (Pb-Free)
Carsem-M	28	TSSOP (Pb-Free)	Carsem-M	16 TSSOP Exposed Pad (Pb-Free)
Carsem-S	16	TSSOP (Pb-Free)	UTL	14 TSSOP (Pb-Free)
UTL	16	TSSOP (Pb-Free)	UTL	20 TSSOP (Pb-Free)
UTL	16	TSSOP Exposed Pad (Pb-Free)	UTL	20 TSSOP Exposed Pad (Pb-Free)
UTL	28	TSSOP Exposed Pad (Pb-Free)		

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 67580 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 7/1/2011 and 6/30/2012.

Assembly Information:

Package Type: TSSOP (Pb-Free)

Date Code Range: 1042 to 1213

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1042	MAX1441GUP+	135C	1000 HRS	48	0	
HIGH TEMP OP LIFE	1042	MAX4582AUE+	135C	500 HRS	80	1	
HIGH TEMP OP LIFE	1134	MAX4618EUE+	135C	192 HRS	80	0	
HIGH TEMP OP LIFE	1139	MAX5815AAUD+	135C	192 HRS	80	0	
HIGH TEMP OP LIFE	1140	MAX3222CUP+	135C	192 HRS	78	0	
HIGH TEMP OP LIFE	1140	MAX3225EUP+	135C	192 HRS	80	0	
HIGH TEMP OP LIFE	1205	MAX17806EUI+	135C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1207	MAX17806EUI+	135C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1211	MAX17806EUI+	135C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1212	MAX1441GUP/V+	135C	192 HRS	32	0	
Total:						1	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1115	MAX3222EEUP+	150C	1000 HRS	80	0	
STORAGE LIFE	1117	MAX3222EEUP+	150C	1000 HRS	80	0	
STORAGE LIFE	1145	MAX17806EUI+	150C	1000 HRS	80	0	

STORAGE LIFE	1146	MAX17806EUI+	150C	1000 HRS	80	0
STORAGE LIFE	1205	MAX17806EUI+	150C	1000 HRS	80	0
STORAGE LIFE	1205	MAX17806EUI+	150C	1000 HRS	80	0
STORAGE LIFE	1207	MAX17806EUI+	150C	1000 HRS	80	0
STORAGE LIFE	1211	MAX17807EUI+	150C	1000 HRS	79	0
STORAGE LIFE	1212	MAX1441GUP/V+	150C	500 HRS	50	0
STORAGE LIFE	1213	MAX17806EUI+	150C	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	1146	MAX17806EUI+	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1205	MAX17806EUI+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1207	MAX17806EUI+	-65C TO 150C	500 CYS	79	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1213	MAX17806EUI+	-65C TO 150C	500 CYS	80	0	
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1205	MAX17806EUI+	130C, 85% R.H.	100 HRS	47	0	
Total:						0	

Assembly Information:

Package Type: TSSOP Exposed Pad (Pb-Free)

Date Code Range: 0940 to 1216

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1105	MAX16908RAUE50/V+	135C	1000 HRS	85	0	
HIGH TEMP OP LIFE	1122	MAX1454AUE/V+	135C	192 HRS	79	0	
HIGH TEMP OP LIFE	1124	MAX16941AUE/V+	135C	500 HRS	26	0	
HIGH TEMP OP LIFE	1128	MAX4618EUE+	135C	192 HRS	80	0	
HIGH TEMP OP LIFE	1131	MAX15034BAUI+	135C	700 HRS	80	0	
HIGH TEMP OP LIFE	1131	MAX15034BAUI+	135C	708 HRS	75	0	
HIGH TEMP OP LIFE	1138	MAX15034BAUI+	135C	700 HRS	100	0	
HIGH TEMP OP LIFE	1151	MAX16952AUE/V+	135C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1153	MAX16833FAUE/V+	135C	700 HRS	47	0	
HIGH TEMP OP LIFE	1216	MAX5051AAUI+	135C	192 HRS	47	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0940	MAX16940AUI/V+	150C	500 HRS	45	0	
STORAGE LIFE	0940	MAX16940AUI/V+	150C	1000 HRS	45	0	
STORAGE LIFE	1022	MAX13325GUI/V+	150C	500 HRS	45	0	
STORAGE LIFE	1025	MAX16838AUP/V+	150C	500 HRS	50	0	
STORAGE LIFE	1121	MAX15034BAUI+	150C	500 HRS	50	0	
STORAGE LIFE	1124	MAX16940AUI/V+	150C	1000 HRS	45	0	
STORAGE LIFE	1138	MAX16833CAUE/V+	150C	1000 HRS	80	0	
STORAGE LIFE	1142	MAX16838AUP/V+	150C	1048 HRS	77	0	
					Total:	0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	0940	MAX16940AUI/V+	-65C TO 150C	500 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1119	MAX16838AUP/V+	-65C TO 150C	1000 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1121	MAX15034BAUI+	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1121	MAX15034BAUI+	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1124	MAX16940AUI/V+	-65C TO 150C	1000 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1124	MAX16940AUI/V+	-65C TO 150C	500 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1124	MAX16941AUE/V+	-65C TO 150C	1000 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1138	MAX16833CAUE/V+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1142	MAX16838AUP/V+	-65C TO 150C	1000 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1144	MAX16833CAUE/V+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1147	MAX16833AUE/V+T	-65C TO 150C	500 CYS	80	0	
					Total:	0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1105	MAX16903SAUE50/V+	130C, 85% R.H.	100 HRS	46	0	
BIASED MOISTURE	1105	MAX16903SAUE50/V+	130C, 85% R.H.	100 HRS	46	0	
BIASED MOISTURE	1138	MAX16833CAUE/V+	130C, 85% R.H.	100 HRS	25	0	
					Total:	0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1124	MAX16940AUI/V+	130C, 85% R.H.	100 HRS	77	0	
MOISTURE SOAK	1124	MAX16940AUI/V+	130C, 85% R.H.	100 HRS	77	0	
MOISTURE SOAK	1138	MAX16833CAUE/V+	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1144	MAX16833CAUE/V+	130C, 85% R.H.	100 HRS	80	0	
					Total:	0	

FAILURE RATE: MTTF (YRS): 67580 FITS: 1.7