



4/17/2012

RELIABILITY MONITOR REPORT
FOR

WLP 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		
ASE Taiwan	81	WLP (Pb-Free)	ASE Taiwan	144 WLP (Pb-Free)
ASE Taiwan	169	WLP (Pb-Free)	CASIO MICRONIC	9 WLP (Pb-Free)
CASIO MICRONIC	20	WLP (Pb-Free)	CASIO MICRONIC	25 WLP (Pb-Free)
CASIO MICRONIC	81	WLP (Pb-Free)	CASIO MICRONIC	110 WLP (Pb-Free)
CASIO MICRONIC	169	WLP (Pb-Free)	CASIO MICRONIC	225 WLP (Pb-Free)
DALLAS-MAXFIL	6	WLP (Pb-Free)	DALLAS-MAXFIL	9 WLP (Pb-Free)
DALLAS-MAXFIL	25	WLP (Pb-Free)	DALLAS-MAXFIL	30 WLP (Pb-Free)
DALLAS-MAXFIL	49	WLP (Pb-Free)	DALLAS-MAXFIL	90 WLP (Pb-Free)
DALLAS-MAXFIL	110	WLP (Pb-Free)	STATS-TAIWAN	108 WLP
STATS-TAIWAN	9	WLP (Pb-Free)	STATS-TAIWAN	81 WLP (Pb-Free)
STATS-TAIWAN	169	WLP (Pb-Free)	TERAMIKROS	9 WLP (Pb-Free)
TERAMIKROS	20	WLP (Pb-Free)		

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 142694 FITS: 0.8

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: WLP
 Date Code Range: 1143 to N/A

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1143	MAX98095EWG	135C	500 HRS	45	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	N/A	MAX98095EWG	150C	1048 HRS	77	0	
STORAGE LIFE	N/A	MAX98095EWG	150C	1048 HRS	77	0	
STORAGE LIFE	N/A	MAX98095EWG	150C	1048 HRS	77	0	
STORAGE LIFE	N/A	MAX98095EWG	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX98095EWG	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX98095EWG	150C	1000 HRS	77	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
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TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX98095EWG	-40C TO +125C	500	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX98095EWG	-40C TO +125C	500	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX98095EWG	-40C TO +125C	500	CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX98095EWG	-65C TO 150C	500	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX98095EWG	-40C TO +125C	500	CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX98095EWG	-65C TO 150C	500	CYS	77	0
						Total:	0

Assembly Information:

Package Type: WLP (Pb-Free)
Date Code Range: N/A to N/A

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE		MAX145658EEWA+T	135C	1000 HRS	44	0	
HIGH TEMP OP LIFE	1003	MAX98304EWL+T	135C	192 HRS	50	0	
HIGH TEMP OP LIFE	1106	MAX98314EWL+T	135C	1000 HRS	77	0	
HIGH TEMP OP LIFE	1109	MAX8939EWP+	135C	500 HRS	47	0	
HIGH TEMP OP LIFE	1122	MAX44269EWL+T	135C	192 HRS	48	0	
HIGH TEMP OP LIFE	1126	MAX15108EWP+	135C	192 HRS	48	0	
HIGH TEMP OP LIFE	1126	MAX15108EWP+	135C	192 HRS	46	0	
HIGH TEMP OP LIFE	1133	MAX8959EWG+T	135C	500 HRS	45	0	
HIGH TEMP OP LIFE	1139	MAX8968EWL+CBF	135C	500 HRS	48	0	
HIGH TEMP OP LIFE	1143	MAX14616ETX+	135C	192 HRS	76	0	
HIGH TEMP OP LIFE	1143	MAX8971EWP+T	135C	192 HRS	50	0	
HIGH TEMP OP LIFE	1144	MAX8930EWJ+	135C	1000 HRS	48	0	
HIGH TEMP OP LIFE	1145	MAX8959EWG+T	135C	192 HRS	45	0	
HIGH TEMP OP LIFE	1146	MAX8959EWG+T	135C	192 HRS	45	0	
HIGH TEMP OP LIFE	1149	MAX8971EWP+	135C	192 HRS	48	0	
HIGH TEMP OP LIFE	1205	MAX77686EWE+T	135C	240 HRS	48	0	
HIGH TEMP OP LIFE	N/A	MAX14803AEWZ+T	135C	558 HRS	45	0	
HIGH TEMP OP LIFE	N/A	MAX98314EWL+T	135C	1000 HRS	77	0	
HIGH TEMP OP LIFE	N/A	MAX98314EWL+T	135C	1000 HRS	77	0	
HIGH TEMP OP LIFE	N/A	MAX8959EWG+T	135C	1000 HRS	44	0	
HIGH TEMP OP LIFE	N/A	MAX14570EZT+	135C	1000 HRS	77	0	
HIGH TEMP OP LIFE	N/A	MAX8959EWG+T	135C	1000 HRS	45	0	
HIGH TEMP OP LIFE	N/A	MAX77663AEWJ+T	135C	500 HRS	44	0	

Total: 0

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1106	MAX98314EWL+T	150C	500 HRS	77	0	
STORAGE LIFE	1144	MAX8930EWJ+	150C	1000 HRS	80	0	
STORAGE LIFE	N/A	MAX98314EWL+T	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX98314EWL+T	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX8997EWW+T	150C	1000 HRS	76	0	
STORAGE LIFE	N/A	MAX8997EWW+T	150C	1000 HRS	70	0	
STORAGE LIFE	N/A	MAX8997EWW+T	150C	1000 HRS	72	0	
STORAGE LIFE	N/A	MAX14568EEWA+T	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX14568EEWA+T	150C	1000 HRS	76	0	
STORAGE LIFE	N/A	MAX14568EEWA+T	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX14570EZT+	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX14570EZT+	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX14570EZT+	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX8997EWW+T	150C	1000 HRS	75	0	
STORAGE LIFE	N/A	MAX8997EWW+T	150C	500 HRS	77	0	
STORAGE LIFE	N/A	MAX8997EWW+T	150C	1000 HRS	76	0	
STORAGE LIFE	N/A	MAX8997EWW+T	150C	500 HRS	77	0	
STORAGE LIFE	N/A	MAX8997EWW+T	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX8997EWW+T	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX8997EWW+T	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX8959EWG+T	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX8959EWG+T	150C	1024 HRS	77	0	
STORAGE LIFE	N/A	MAX8959EWG+T	150C	1024 HRS	77	0	
STORAGE LIFE	N/A	MAX77663	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX77663	150C	1000 HRS	77	0	
STORAGE LIFE	N/A	MAX77663	150C	1000 HRS	77	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 15' RAMP, 15' DWELL		MAX8899EWZ+T	-40C TO +125C	1000 CYS	200	0	
TEMP CYCLE, 15' RAMP, 15' DWELL		MAX8899EWZ+T	-40C TO +125C	1000 CYS	200	0	
TEMP CYCLE, 15' RAMP, 15' DWELL		MAX8899EWZ+T	-40C TO +125C	1000 CYS	200	0	
TEMP CYCLE, 15' RAMP, 15' DWELL		MAX98304CEWL+	-40C TO +125C	400 CYS	99	0	

TEMP CYCLE, 15' RAMP, 15' DWELL		MAX98304CEWL+	-40C TO +125C	400	CYS	100	0
TEMP CYCLE, 15' RAMP, 15' DWELL		MAX98304CEWL+	-40C TO +125C	400	CYS	97	0
TEMP CYCLE, 15' RAMP, 15' DWELL		MAX98304CEWL+	-40C TO +125C	400	CYS	100	0
TEMP CYCLE, 15' RAMP, 15' DWELL	1106	MAX98314EWL+T	-40C TO +125C	1000	CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1106	MAX98314EWL+T	-65C TO 150C	500	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	1144	MAX8930EWJ+	-40C TO +125C	500	CYS	80	0
TEMP CYCLE, 15' RAMP, 15' DWELL	1144	MAX8930EWJ+	-40C TO +125C	1000	CYS	80	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX98314EWL+T	-40C TO +125C	1000	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX98314EWL+T	-40C TO +125C	1000	CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX98314EWL+T	-65C TO 150C	500	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8899GEWZ+T	-40C TO +125C	1000	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8899GEWZ+T	-40C TO +125C	1000	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8959EWG+T	-40C TO +125C	1000	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	500	CYS	76	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	500	CYS	72	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	500	CYS	74	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	500	CYS	71	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	500	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	500	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX98314EWL+T	-40C TO +125C	1000	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX14568EEWA+T	-40C TO +125C	1000	CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX14568EEWA+T	-65C TO 150C	500	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX14568EEWA+T	-40C TO +125C	1000	CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX14568EEWA+T	-65C TO 150C	500	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX14568EEWA+T	-40C TO +125C	1000	CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX14568EEWA+T	-65C TO 150C	500	CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX14570EZT+	-40C TO +125C	1000	CYS	77	0

TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX14570EZT+	-40C TO +125C	1000 CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX14570EZT+	-40C TO +125C	1000 CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	1000 CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	1000 CYS	76	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	1000 CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	1000 CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	1000 CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	500 CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	500 CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX8997EWW+T	-65C TO 150C	500 CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8997EWW+T	-40C TO +125C	500 CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX8997EWW+T	-65C TO 150C	500 CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8959EWG+T	-40C TO +125C	500 CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8959EWG+T	-40C TO +125C	500 CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8959EWG+T	-40C TO +125C	500 CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX77663	-65C TO 150C	1000 CYS	75	0
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX77663	-65C TO 150C	1000 CYS	75	0
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX77663	-65C TO 150C	1000 CYS	77	0
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8957TEWI+T	-40C TO +125C	500 CYS	60	0
Total:						0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	N/A	MAX77663	85 C/85% R.H.	500 HRS	45	0	
Total:						0	

FAILURE RATE: MTTF (YRS): 142694 FITS: 0.8