



4/17/2012

RELIABILITY MONITOR REPORT
FOR

LQFP 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 Tawain	144	LQFP (Pb-Free)	ATK	64 LQFP (Pb-Free)
Carsem-S	48	LQFP (Pb-Free)		

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 34236 FITS: 3.3

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: LQFP (Pb-Free)

Date Code Range: 1003 to 1129

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1003	MAX14803CCM+	135C	120 HRS	80	0	
HIGH TEMP OP LIFE	1104	MAX2992	125C, 1.2V (PSA) & 3.3V (PSB)	240 HRS	80	0	
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS		75	0	
HIGH TEMP OP LIFE	1115	DS26303	125C, 3.5 VOLTS	1000 HRS	77	0	
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS		77	0	
HIGH TEMP OP LIFE	1115	DS26303	125C, 3.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	1115	DS26303	125C, 3.5 VOLTS	1000 HRS	77	0	
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS		76	0	
HIGH TEMP OP LIFE	1124	MAX14803CCM+	135C	312 HRS	80	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1104	MAX2992	150C	500 HRS	45	0	
STORAGE LIFE	1115	DS26303	150C	1000 HRS	77	0	
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS		77	0	
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS		77	0	
STORAGE LIFE	1115	DS26303	150C	1000 HRS	77	0	
STORAGE LIFE	1115	DS26303	150C	1000 HRS	77	0	
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS		77	0	

Total: 0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1102	MAX14803CCM+	-65C TO 150C	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1104	MAX2992	-65C TO 150C	700	CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1110	MAX2992	-65C TO 150C	700	CYS	77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1115	DS26303	-55C TO 125C	1000	CYS	77	0
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS			77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1115	DS26303	-55C TO 125C	1000	CYS	77	0
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS			77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1115	DS26303	-55C TO 125C	1000	CYS	77	0
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS			77	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1129	MAX9247ECM/V+	-65C TO 150C	500	CYS	80	0
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	1104	MAX2992	130C, 85% R.H.	96	HRS	47	0
HAST	1104	MAX2992	130C, 85% R.H.	100	HRS	30	0
HAST	1110	MAX2992	130C, 85% R.H.	96	HRS	47	0
HAST	1110	MAX2992	130C, 85% R.H.	100	HRS	30	0
BIASED MOISTURE CYCLING	1115	DS26303	85/85, 3.5 VOLTS	1000	HRS	44	0
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS			44	0
BIASED MOISTURE CYCLING	1115	DS26303	85/85, 3.5 VOLTS	1000	HRS	44	0
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS			44	0
BIASED MOISTURE CYCLING	1115	DS26303	85/85, 3.5 VOLTS	1000	HRS	44	0
Total:						0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST, NO BIAS	1104	MAX2992	130C, 85% R.H.	96	HRS	77	0
HAST, NO BIAS	1110	MAX2992	130C, 85% R.H.	96	HRS	77	0
HAST, NO BIAS	1115	DS26303	130C, 85% R.H.	200	HRS	69	0
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS			69	0
HAST, NO BIAS	1115	DS26303	130C, 85% R.H.	200	HRS	77	0

VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS		77	0
HAST, NO BIAS	1115	DS26303	130C, 85% R.H.	200 HRS	74	0
VISUAL INSPECTION	1115	DS26303	WHISKERS < 50um, Class 1/1A TC & HTS		74	0
					Total:	0

FAILURE RATE: MTTF (YRS): 34236 FITS: 3.3