



5/9/2009

RELIABILITY MONITOR REPORT
FOR

uMAX 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 (Amkor, PI)	10	uMAX (Pb-Free)	Hana AYUTHAYA	8 uMAX
Unisem Malaysia	8	uMAX	Unisem Malaysia	8 uMAX (Pb-Free)
Unisem Malaysia	10	uMAX (Pb-Free)	UTL (NSEB) UTAC	8 uMAX (Pb-Free)
UTL (NSEB) UTAC	10	uMAX (Pb-Free)		

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 86996 FITS: 1.3

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 1/1/2008 and 12/31/2008.

Assembly Information:

Package Type: uMAX
Date Code Range: 0735 to 0825

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0735	MAX7500MUA+	150C	500 HRS	80	0	
STORAGE LIFE	0735	MAX7500MUA+	150C	1000 HRS	80	0	
STORAGE LIFE	0741	MAX7500MUA+	150C	1000 HRS	48	0	
STORAGE LIFE	0825	MAX1790EUA+	150C	1000 HRS	80	0	
STORAGE LIFE	0825	MAX1790EUA+	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	0735	MAX7500MUA+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	0825	MAX1790EUA+	-65C TO 150C	200 CYS	80	0	
Total:						0	

Assembly Information:

Package Type: uMAX (Pb-Free)
Date Code Range: 0719 to 0843

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0719	DS1091L	125C, 3.6 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0719	DS1091L	125C, 3.6 VOLTS	1000 HRS	32	0	

HIGH TEMP OP LIFE	0737	MAX1790EUA+	135C	1000	HRS	50	0
HIGH TEMP OP LIFE	0737	MAX1790EUA+	135C	1000	HRS	50	0
HIGH TEMP OP LIFE	0742	MAX2750AUA+	135C	1000	HRS	74	0
HIGH TEMP OP LIFE	0745	DS1099	125C, 5.5 VOLTS	240	HRS	45	0
HIGH TEMP OP LIFE	0752	MAX6683AUB+	135C	192	HRS	54	0
HIGH TEMP OP LIFE	0802	DS3502	125C, 5.5 V (PSA) & 15.0 V (PSB)	1000	HRS	77	0
HIGH TEMP OP LIFE	0806	DS1086H	125C, 5.25 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0811	DS1080CL	125C, 3.6 VOLTS	1000	HRS	45	0
HIGH TEMP OP LIFE	0814	MAX2130EUT+	135C	138	HRS	35	0
HIGH TEMP OP LIFE	0815	MAX6652AUB+	135C	192	HRS	50	0
HIGH TEMP OP LIFE	0818	MAX1792EUA18+	135C	138	HRS	79	0
HIGH TEMP OP LIFE	0821	MAX9654AUB+	135C	192	HRS	50	0
HIGH TEMP OP LIFE	0822	MAX9928TAUA+	135C	192	HRS	50	0
HIGH TEMP OP LIFE	0824	MAX1790EUA+X01	135C	192	HRS	50	0
HIGH TEMP OP LIFE	0824	MAX5007ACUB+	135C	192	HRS	50	0
HIGH TEMP OP LIFE	0826	MAX9650AUA+	135C	192	HRS	55	0
HIGH TEMP OP LIFE	0828	MAX6641AUB90+	135C	192	HRS	48	0
HIGH TEMP OP LIFE	0843	DS1090	125C, 5.5 VOLTS	408	HRS	45	0
HIGH TEMP OP LIFE	0843	DS1090	125C, 5.5 VOLTS	408	HRS	45	0
Total:						0	0

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0737	MAX1790EUA+	150C	1000	HRS	77	0
STORAGE LIFE	0746	MAX668EUB+	150C	1000	HRS	80	0
STORAGE LIFE	0806	DS1086H	150C	1000	HRS	75	0
STORAGE LIFE	0810	DS1086L	150C	1000	HRS	75	0
Total:						0	0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	0746	MAX668EUB+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	0806	DS1086H	-55C TO 125C	1000	CYS	77	0
BOND STRENGTH	0806	DS1086H	MIL-STD-883-2011 : COND D	30	WIRES	5	0
TEMP CYCLE, 5' RAMP, 10' DWELL	0810	DS1086L	-55C TO 125C	1000	CYS	77	0
BOND STRENGTH	0810	DS1086L	MIL-STD-883-2011 : COND D	40	WIRES	5	0
TEMP CYCLE, 5' RAMP, 10' DWELL	0814	MAX2130EUA+	-65C TO 150C	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	0818	MAX1792EUA18+	-65C TO 150C	500	CYS	80	0
Total:						0	0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0806	DS1086H	130C, 85%R.H.,5.5V	96 HRS	77	0	
HAST	0810	DS1086L	130C, 85%R.H.,3.5V	96 HRS	77	0	
Total:						0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0806	DS1086H	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0810	DS1086L	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
Total:						0	

W/E ENDURANCE AND DATA RET'N

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0802	DS3502	150C	1000 HRS	72	0	
WRITE CYCLE STRESS (KCYS)	0802	DS3502	25 C, 5.5 V (PSA) & 15.0 V (PSB)	200 KCYS	77	0	
STORAGE LIFE	0802	DS3502	150C	1000 HRS	77	0	
WRITE CYCLE STRESS (KCYS)	0802	DS3502	85 C, 5.5 V (PSA) & 15.0 V (PSB)	50 KCYS	77	0	
STORAGE LIFE	0810	DS1086L	150C	500 HRS	77	0	
WRITE CYCLE STRESS (KCYS)	0810	DS1086L	70 C, 3.6 VOLTS	10 KCYS	77	0	
Total:						0	

W/E ENDURANCE AND OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0810	DS1086L	125C, 3.6 VOLTS	408 HRS	75	0	
WRITE CYCLE STRESS (KCYS)	0810	DS1086L	70 C, 3.6 VOLTS	10 KCYS	77	0	
Total:						0	

FAILURE RATE: MTTF (YRS): 86996 FITS: 1.3