



10/8/2010

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 (Amkor, PI)	38	TSSOP (Pb-Free)	Carsem-S	14 TSSOP (Pb-Free)
Carsem-S	24	TSSOP (Pb-Free)	Carsem-S	28 TSSOP (Pb-Free)
Carsem-S	48	TSSOP (Pb-Free)	Carsem-S (Jelapang,	16 TSSOP (Pb-Free)
UTL (NSEB) UTAC	20	TSSOP (Pb-Free)	UTL (NSEB) UTAC	24 TSSOP (Pb-Free)
UTL (NSEB) UTAC	28	TSSOP (Pb-Free)	UTL (NSEB) UTAC	38 TSSOP (Pb-Free)

The calculated failure rate for this assembly is:

**FAILURE RATE: MTTF (YRS): 47649 FITS: 2.4**

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 10/1/2009 and 9/30/2010

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### Assembly Information:

Package Type: TSSOP (Pb-Free)

Date Code Range: 0914 to 1029

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### OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0914	MAX4478AUD+	135C	700 HRS	80	0	
HIGH TEMP OP LIFE	0924	MAX11080GUU+	135C	324 HRS	47	0	
HIGH TEMP OP LIFE	0937	DS2784	125C, 5.5 V (PSA) & 15.0 V (PSB)	1000 HRS	77	0	
HIGH TEMP OP LIFE	0940	DS2784	125C, 5.5 V (PSA) & 15.0 V (PSB)	1000 HRS	80	0	
HIGH TEMP OP LIFE	0948	DS1856	125C, 5.5 VOLTS	1000 HRS	77	1	40023508
HIGH TEMP OP LIFE	0951	DS2784	125C, 5.5 V (PSA) & 15.0 V (PSB)	1000 HRS	80	0	
HIGH TEMP OP LIFE	0952	MAX11080GUU+	135C	192 HRS	45	0	
HIGH TEMP OP LIFE	1006	PE31Z	135C, 7.0V (PSA) & 28.0V (PSD)	192 HRS	48	0	
HIGH TEMP OP LIFE	1010	MAX3241EEUI+	135C	1000 HRS	45	0	
HIGH TEMP OP LIFE	1010	MAX3241EEUI+	135C	1000 HRS	45	0	
HIGH TEMP OP LIFE	1010	MAX3241EEUI+	135C	1000 HRS	45	0	
HIGH TEMP OP LIFE	1013	MAX3625ACUG+	135C	192 HRS	48	0	
HIGH TEMP OP LIFE	1018	MAX9236EUB+	135C	615 HRS	39	0	
HIGH TEMP OP LIFE	1019	MAX3209EEUU+	135C	500 HRS	80	0	
HIGH TEMP OP LIFE	1023	MAX3222EEUP+	135C	1000 HRS	80	0	
<b>Total:</b>						<b>1</b>	

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**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0924	MAX11080GUU+	150C	500 HRS	44	0	
STORAGE LIFE	0940	DS2784	150C	1000 HRS	80	0	
STORAGE LIFE	0946	MAX3625BEUG+	150C	1000 HRS	77	0	
STORAGE LIFE	0946	MAX3625BEUG+	150C	1000 HRS	77	0	
STORAGE LIFE	0946	MAX3625BEUG+	150C	1000 HRS	77	0	
STORAGE LIFE	0946	MAX3625BEUG+	150C	500 HRS	77	0	
STORAGE LIFE	0951	DS2784	150C	1000 HRS	80	0	
STORAGE LIFE	1010	MAX3241EEUI+	150C	1000 HRS	45	0	
STORAGE LIFE	1010	MAX3241EEUI+	150C	1000 HRS	77	0	
STORAGE LIFE	1010	MAX3241EEUI+	150C	500 HRS	77	0	
STORAGE LIFE	1018	MAX9244GUM+	150C	1000 HRS	78	0	
STORAGE LIFE	1018	MAX9236EUM+	150C	1000 HRS	78	0	
STORAGE LIFE	1022	MAX9209EUM+	150C	500 HRS	80	0	
STORAGE LIFE	1023	MAX3222EEUP+	150C	1000 HRS	80	0	
STORAGE LIFE	1029	MAX17801EUU+	150C	150 HRS	79	0	
<b>Total:</b>						<b>0</b>	

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**TEMPERATURE CYCLE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	0940	DS2784	-55C TO 125C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	0946	MAX3625BEUG+	-65C TO 150C	500 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	0946	MAX3625BEUG+	-65C TO 150C	500 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	0946	MAX3625BEUG+	-65C TO 150C	500 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	0951	DS2784	-55C TO 125C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1010	MAX3241EEUI+	-65C TO 150C	1000 CYS	45	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1010	MAX3241EEUI+	-65C TO 150C	1000 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1010	MAX3241EEUI+	-65C TO 150C	1000 CYS	77	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1018	MAX9244GUM+	-65C TO 150C	1000 CYS	78	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1018	MAX9236EUM+	-65C TO 150C	1000 CYS	78	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1019	MAX3209EEUU+	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1022	MAX9209EUM+	-65C TO 150C	500 CYS	80	0	

TEMP CYCLE, 5' RAMP, 10' DWELL	1023	MAX3222EEUP+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1029	MAX17801EUU+	-65C TO 150C	500	CYS	80	0
<b>Total:</b>						<b>0</b>	<b>0</b>

**TEMPERATURE HUMIDITY BIAS**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0940	DS2784	130C, 85%R.H.,5.5V	96	HRS	80	0
HAST	0951	DS2784	130C, 85%R.H.,5.5V	96	HRS	80	0
<b>Total:</b>						<b>0</b>	<b>0</b>

**FAILURE RATE:    MTTF (YRS): 47649    FITS: 2.4**