



1/25/2008

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)	8	TSSOP (Pb-Free)	ATP (Amkor, PI)	16 TSSOP (Pb-Free)
UNK	14	TSSOP	UNK	16 TSSOP
UNK	20	TSSOP	UNK	28 TSSOP
UNK	48	TSSOP	UTL (NSEB) UTAC	20 TSSOP (Pb-Free)

The calculated failure rate for this assembly is:

**FAILURE RATE: MTTF (YRS): 406296 FITS: 0.3**

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 and

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**Assembly Information:**

Package Type: TSSOP  
 Flammability: UL 94-V0  
 Date Code Range: 050 to 0713

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**OPERATING LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	050	MAX7432AEUD	135C, 5.25V	1000 HRS	45	0	
			135C, 5.25V	1000 HRS	45	0	
HIGH TEMP OP LIFE	0442	MAX7432AEUD	135C, 5.25V	1000 HRS	45	0	
			135C, 5.25V	1000 HRS	45	0	
			135C, 5.25V	1000 HRS	45	0	
			135C, 5.25V	1000 HRS	45	0	
HIGH TEMP OP LIFE	0503	MAX9234EUM	135C, 5.25V	1000 HRS	47	0	
			135C, 5.25V	1000 HRS	47	0	
HIGH TEMP OP LIFE	0526	MAX2027EUP	135C, 5.25V	1000 HRS	48	0	
			135C, 5.25V	1000 HRS	48	0	
HIGH TEMP OP LIFE	0542	MAX9201AL1	135C, 5.25V	1000 HRS	149	0	
			135C, 5.25V	1000 HRS	149	0	
HIGH TEMP OP LIFE	0616	MAX7033EUI+	135C, 5.25V	1000 HRS	48	0	
			135C, 5.25V	1000 HRS	48	0	
HIGH TEMP OP LIFE	0628	LMX324AUD+	135C, 5.25V	1000 HRS	77	0	
			135C, 5.25V	1000 HRS	77	0	
HIGH TEMP OP LIFE	0633	MAX5439EUD+	135C, 5.25V	1000 HRS	48	0	
			135C, 5.25V	1000 HRS	48	0	
HIGH TEMP OP LIFE	0642	MAX2027EUP+	135C, 5.25V	1000 HRS	45	0	
			135C, 5.25V	1000 HRS	45	0	
			135C, 5.25V	1000 HRS	45	0	
			135C, 5.25V	1000 HRS	45	0	

HIGH TEMP OP LIFE	0642	MAX2027EUP+	135C, 5.25V	1000 HRS	45	0
			135C, 5.25V	1000 HRS	45	0
HIGH TEMP OP LIFE	0651	MAX8869EUE25+	135C, 5.25V	1000 HRS	78	0
			135C, 5.25V	1000 HRS	78	0
HIGH TEMP OP LIFE	0701	MAX2027EUP+	135C, 5.25V	1000 HRS	48	0
			135C, 5.25V	1000 HRS	48	0
HIGH TEMP OP LIFE	0709	MAX6689UP9A+	135C, 5.25V	1000 HRS	48	0
			135C, 5.25V	1000 HRS	48	0
HIGH TEMP OP LIFE	0710	MAX6689UP9A+	135C, 5.25V	1000 HRS	47	0
			135C, 5.25V	1000 HRS	47	0
HIGH TEMP OP LIFE	0713	MAX3317EEUP+	135C, 5.25V	1000 HRS	80	0
			135C, 5.25V	1000 HRS	80	0
<b>Total:</b>						<b>0</b>

### Assembly Information:

Package Type: TSSOP (Pb-Free)  
 Flammability: UL 94-V0  
 Date Code Range: 0701 to 0720

### OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0701	DS1081L	125C, 3.6 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0714	DS2784	125C, 5.5 V (PSA) & 15.0 V (PSB)	1000 HRS	77	0	
HIGH TEMP OP LIFE	0720	DS1859	125C, 5.5 VOLTS	1000 HRS	77	0	
<b>Total:</b>						<b>0</b>	

### STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0715	DS2782	150C	1000 HRS	77	0	
<b>Total:</b>						<b>0</b>	

### TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0715	DS2782	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0720	DS1859	-55C TO 125C	1000 CYS	77	0	
<b>Total:</b>						<b>0</b>	

### TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	0715	DS2782	85/85, 5.5 VOLTS	1000 HRS	77	0	
BIASED MOISTURE	0720	DS1859	85/85, 5.5 VOLTS	1000 HRS	76	0	
<b>Total:</b>						<b>0</b>	

### W/E ENDURANCE AND DATA RET'N

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
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WRITE CYCLE STRESS (KCYS)	0714	DS2784	50 C, 5.5 V (PSA) & 15.0 V (PSB) 50	KCYS	77	0
STORAGE LIFE			150C	1000 HRS	77	0
STORAGE LIFE	0720	DS1859	150C	1000 HRS	73	0
WRITE CYCLE STRESS (KCYS)			70 C, 5.5 VOLTS	30 KCYS	77	0
<b>Total:</b>						<b>0</b>

**FAILURE RATE: MTTF (YRS): 406296 FITS: 0.3**