

6/25/2020



**RELIABILITY MONITOR REPORT
FOR**

QSOP Package

MAXIM INTEGRATED

**160 RIO ROBLES
SAN JOSE, CA 95134**

**This Report was prepared by
MAXIM INTEGRATED 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)	16	QSOP (Pb-Free)	Cirtek	16 QSOP (Pb-Free)
UTL (NSEB) UTAC	16	QSOP (Pb-Free)		

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 46314 FITS: 2.5

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 1/1/2020 and 3/31/2020

Assembly Information:

Package Type: QSOP (Pb-Free)
Date Code Range: 1832 to 1948

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1910	MAX5170BEEE+	125°C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1913	MAX11628EEE/V+	125°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1920	MAX3645EEE+	125°C	1000 HRS	48	0	
HIGH TEMP OP LIFE	1920	MAX3645EEE+	125°C	1000 HRS	32	0	
Total:						0	

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
CONVECTION REFLOW	1913	MAX11628EEE/V+	125°C	3 PASS	320	0	
CONVECTION REFLOW	1920	MAX3645EEE+		3 PASS	312	0	
CONVECTION REFLOW	1948	MAX1873SEEE+		3 PASS	246	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1910	MAX5170BEEE+	150°C	500 HRS	80	0	
STORAGE LIFE	1913	MAX11628EEE/V+	150°C	1000 HRS	80	0	
STORAGE LIFE	1920	MAX3645EEE+	150°C	1000 HRS	80	0	
STORAGE LIFE	1948	MAX1873SEEE+	150°C	1000 HRS	80	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
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TEMP CYCLE, 5' RAMP, 10' DWELL	1832	MAX5170BEEE+	-65C TO +150C (Condition C)	1000	CYS	79	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1910	MAX5170BEEE+	-65C TO +150C (Condition C)	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1913	MAX11628EEE/V+	-65C TO +150C (Condition C)	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1920	MAX3645EEE+	-65C TO +150C (Condition C)	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1948	MAX1873SEEE+	-65C TO +150C (Condition C)	1000	CYS	80	0
Total:						0	0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1910	MAX5170BEEE+	130C, 85% R.H.	96	HRS	79	0
BIASED MOISTURE	1920	MAX3645EEE+	130C, 85% R.H.	96	HRS	79	0
Total:						0	0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1913	MAX11628EEE/V+	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK	1948	MAX1873SEEE+	130C, 85% R.H.	96	HRS	77	0
Total:						0	0

FAILURE RATE: MTTF (YRS): 46314 FITS: 2.5