

4/16/2014



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	UTL	PACKAGE
ATP	16	QSOP (Pb-Free)	UTL	16 QSOP (Pb-Free)

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 56945 FITS: 2.0

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 4/1/2013 and 3/31/2014.

Assembly Information:

Package Type: QSOP (Pb-Free)

Date Code Range: 1110 to 1347

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1110	MAX16975BAEE/V+	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1231	MAX16969DGEE/V+	135°C	500 HRS	80	0	
HIGH TEMP OP LIFE	1236	MAX16975BAEE/V+	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1236	MAX16975BAEE/V+	135°C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1237	MAX16975BAEE/V+	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1243	MAX16969DGEE/V+	135°C	500 HRS	31	0	
HIGH TEMP OP LIFE	1243	MAX16969DGEE/V+	135°C	500 HRS	48	0	
HIGH TEMP OP LIFE	1334	MAX16970GEEA/V+	135°C	192 HRS	80	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1110	MAX16975BAEE+	150°C	1000 HRS	48	0	
STORAGE LIFE	1233	MAX9926UAEE/V+	150°C	1000 HRS	48	0	
STORAGE LIFE	1233	MAX9926UAEE/V+	150°C	1000 HRS	80	0	
STORAGE LIFE	1237	MAX16975BAEE/V+	150°C	1000 HRS	45	0	
STORAGE LIFE	1237	MAX16975BAEE/V+	150°C	1000 HRS	44	0	
STORAGE LIFE	1247	MAX16975BAEE/V+	150°C	1000 HRS	45	0	
STORAGE LIFE	1302	MAX9926UAEE/V+	150°C	1000 HRS	80	0	
STORAGE LIFE	1302	MAX9926UAEE/V+	150°C	1000 HRS	50	0	
STORAGE LIFE	1302	MAX9926UAEE/V+	150°C	500 HRS	48	0	

STORAGE LIFE	1302	MAX9926UAEE/V+	150°C	1000	HRS	50	0
STORAGE LIFE	1347	MAX8505EEEE+	150°C	1000	HRS	80	0
STORAGE LIFE	1347	MAX8505EEEE+	150°C	1000	HRS	80	0
STORAGE LIFE	1347	MAX8505EEEE+	150°C	1000	HRS	80	0
Total:							0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1110	MAX16975BAEE+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1233	MAX9926UAEE/V+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1233	MAX9926UAEE/V+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1236	MAX16975BAEE+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1236	MAX16975BAEE+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1302	MAX9926UAEE/V+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1302	MAX9926UAEE/V+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1302	MAX9926UAEE/V+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1302	MAX9926UAEE/V+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1347	MAX8505EEEE+	-65C TO 150C	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1347	MAX8505EEEE+	-65C TO 150C	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1347	MAX8505EEEE+	-65C TO 150C	1000	CYS	80	0
Total:							0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1110	MAX16975BAEE+	130C, 85% R.H.	100	HRS	32	0
BIASED MOISTURE	1233	MAX9926UAEE/V+	130C, 85% R.H.	100	HRS	80	0
BIASED MOISTURE	1233	MAX9926UAEE/V+	130C, 85% R.H.	100	HRS	80	0
BIASED MOISTURE	1236	MAX16975BAEE+	130C, 85% R.H.	100	HRS	80	0
BIASED MOISTURE	1236	MAX16975BAEE+	130C, 85% R.H.	100	HRS	80	0
BIASED MOISTURE	1237	MAX16975BAEE/V+	130C, 85% R.H.	100	HRS	32	0
BIASED MOISTURE	1247	MAX16975BAEE/V+	130C, 85% R.H.	100	HRS	80	0
BIASED MOISTURE	1302	MAX9926UAEE/V+	130C, 85% R.H.	100	HRS	80	0
BIASED MOISTURE	1302	MAX9926UAEE/V+	130C, 85% R.H.	100	HRS	80	0
Total:							0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1110	MAX16975BAEE+	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1233	MAX9926UAEE/V+	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1233	MAX9926UAEE/V+	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1236	MAX16975BAEE+	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1236	MAX16975BAEE+	130C, 85% R.H.	100 HRS	79	0	
MOISTURE SOAK	1302	MAX9926UAEE/V+	130C, 85% R.H.	100 HRS	79	0	
MOISTURE SOAK	1302	MAX9926UAEE/V+	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1302	MAX9926UAEE/V+	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1302	MAX9926UAEE/V+	130C, 85% R.H.	100 HRS	80	0	

Total: **0**

FAILURE RATE: MTTF (YRS): 56945 FITS: 2.0