

6/25/2020



**RELIABILITY MONITOR REPORT
FOR**

QFP 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		
ASE Chung-Li	48	LQFP (Pb-Free)	ASE Chung-Li	64 LQFP (Pb-Free)
ASE Kaoshiung	48	LQFP (Pb-Free)	ASE Kaoshiung	144 TQFP (Pb-Free)
ATP (Amkor, PI)	44	TQFP (Pb-Free)		

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 61429 FITS: 1.9

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: LQFP (Pb-Free)

Date Code Range: 1910 to 1942

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1919	MAX14802ECM+	125°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1942	MAX14802ECM+	125°C	1000 HRS	80	0	
				Total:		0	

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
CONVECTION REFLOW	1910	MAX17823BGCB/V+ CV	260C +/-5C	3 PASS	316	0	
CONVECTION REFLOW	1919	MAX14802ECM+	125°C	3 PASS	320	0	
CONVECTION REFLOW	1942	MAX14802ECM+		3 PASS	320	0	
				Total:		0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1910	MAX17823BGCB/V+ CV	150°C	1000 HRS	80	0	
STORAGE LIFE	1919	MAX14802ECM+	150°C	1000 HRS	79	0	
STORAGE LIFE	1942	MAX14802ECM+	150°C	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	1910	MAX17823BGCB/V+ CV	-65C TO +150C (Condition C)	1000 CYS	80	0	

TEMP CYCLE, 5' RAMP, 10' DWELL	1919	MAX14802ECM+	-65C TO +150C (Condition C)	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1942	MAX14802ECM+	-65C TO +150C (Condition C)	1000	CYS	80	0
						Total:	0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1910	MAX17823BGCB/V+ CV	130C, 85% R.H.	96	HRS	40	0
BIASED MOISTURE	1910	MAX17823BGCB/V+ CV	130C, 85% R.H.	96	HRS	40	0
						Total:	0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1919	MAX14802ECM+	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK	1942	MAX14802ECM+	130C, 85% R.H.	96	HRS	80	0
						Total:	0

Assembly Information:

Package Type: TQFP (Pb-Free)
Date Code Range: 1812 to 1849

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1812	87-32650+T00	125°C	1000	HRS	77	0
HIGH TEMP OP LIFE	1849	87-21348+T00	125°C	1000	HRS	33	0
HIGH TEMP OP LIFE	1849	87-21348+T00	125°C	1000	HRS	33	0
HIGH TEMP OP LIFE	1849	87-21348+T00	125°C	1000	HRS	14	0
						Total:	0

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1812	87-32650+T00	150°C	1000	HRS	77	0
STORAGE LIFE	1849	87-21348+T00	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	1849	87-21348+T00	-65C TO +150C (Condition C)	1000	CYS	80	0
						Total:	0

FAILURE RATE: MTTF (YRS): 61429 FITS: 1.9