

4/16/2014



RELIABILITY MONITOR REPORT
FOR

SC70 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	5	SC70 (Pb-Free)	ATP	6 SC70 (Pb-Free)
Carsem-M	3	SC70 (Pb-Free)	UTL	5 SC70 (Pb-Free)

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 79838 FITS: 1.4

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: SC70 (Pb-Free)

Date Code Range: 1206 to 1330

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1235	MAX16083XR31L+T	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1302	MAX16083XR322B+T	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1308	MAX6745XKRD3+T	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1308	MAX6745XKRD3+T	135°C	1000 HRS	54	0	
HIGH TEMP OP LIFE	1308	MAX6745XKRD3+T	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1330	MAX4714EXT+T	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1330	MAX4714EXT+T	135°C	1000 HRS	78	0	
HIGH TEMP OP LIFE	1330	MAX4714EXT+T	135°C	1000 HRS	80	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1231	MXD1816XR29+	150°C	1000 HRS	50	0	
STORAGE LIFE	1302	MAX16083XR322B+T	150°C	1000 HRS	80	0	
STORAGE LIFE	1308	MAX6745XKRD3+T	150°C	1000 HRS	80	0	
STORAGE LIFE	1308	MAX6745XKRD3+T	150°C	1000 HRS	80	0	
STORAGE LIFE	1330	MAX4714EXT+T	150°C	1000 HRS	80	0	
STORAGE LIFE	1330	MAX4714EXT+T	150°C	1000 HRS	80	0	
STORAGE LIFE	1330	MAX4714EXT+T	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	1231	MXD1816XR29+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1302	MAX16083XR322B+ T	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1308	MAX6745XKRD3+T	-65C TO 150C	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1308	MAX6745XKRD3+T	-65C TO 150C	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1330	MAX4714EXT+T	-65C TO 150C	1000	CYS	79	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1330	MAX4714EXT+T	-65C TO 150C	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1330	MAX4714EXT+T	-65C TO 150C	1000	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1330	MAX4714EXT+T	-65C TO 150C	500	CYS	80	0
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1206	MAX6745XKRD3+T	130C, 85% R.H.	96	HRS	77	1
BIASED MOISTURE	1302	MAX16083XR322B+ T	130C, 85% R.H.	100	HRS	80	0
BIASED MOISTURE	1308	MAX6745XKRD3+T	130C, 85% R.H.	100	HRS	80	0
Total:						1	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1302	MAX16083XR322B+ T	130C, 85% R.H.	100	HRS	80	0
MOISTURE SOAK	1330	MAX4714EXT+T	130C, 85% R.H.	500	HRS	80	0
MOISTURE SOAK	1330	MAX4714EXT+T	85 C/85% R.H.	1000	HRS	45	0
MOISTURE SOAK	1330	MAX4714EXT+T	130C, 85% R.H.	500	HRS	79	0
MOISTURE SOAK	1330	MAX4714EXT+T	85 C/85% R.H.	1000	HRS	45	0
MOISTURE SOAK	1330	MAX4714EXT+T	130C, 85% R.H.	500	HRS	80	0
MOISTURE SOAK	1330	MAX4714EXT+T	85 C/85% R.H.	1000	HRS	45	0
Total:						0	

FAILURE RATE: MTTF (YRS): 79838 FITS: 1.4