

**10/27/2017**



**RELIABILITY MONITOR REPORT  
FOR**

**EMGA 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
JCAP	10 EMGA

The calculated failure rate for this assembly is:

**FAILURE RATE: MTTF (YRS): 68841 FITS: 1.7**

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 7/1/2017 and 9/30/2017.

**Assembly Information:**

Package Type: EMGA  
Date Code Range: 1631 to 1727

**OPERATING LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE		MAXM15462AMB+	135°C	750 HRS	79	0	
HIGH TEMP OP LIFE		MAXM15462AMB+	135°C	750 HRS	80	0	
HIGH TEMP OP LIFE	1631	MAXM17532AMB+	135°C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1631	MAXM17532AMB+	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1631	MAXM17532AMB+	135°C	1000 HRS	77	0	
<b>Total:</b>						<b>0</b>	

**PRECONDITIONING LEVEL 3**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
CONVECTION REFLOW		MAXM15462AMB+	260C +/-5C	PASS	84	0	
CONVECTION REFLOW		MAXM15462AMB+	260C +/-5C	PASS	82	0	
CONVECTION REFLOW		MAXM15462AMB+	260C +/-5C	PASS	84	0	
CONVECTION REFLOW		MAXM17532AMB+	260C +/-5C	PASS	84	0	
CONVECTION REFLOW		MAXM17532AMB+	260C +/-5C	PASS	82	0	
CONVECTION REFLOW		MAXM17532AMB+	260C +/-5C	PASS	84	0	
<b>Total:</b>						<b>0</b>	

**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE		MAXM15462AMB+	150°C	500 HRS	80	0	
STORAGE LIFE		MAXM15462AMB+	150°C	500 HRS	80	0	
STORAGE LIFE		MAXM15462AMB+	150°C	500 HRS	80	0	

STORAGE LIFE		MAXM15462AMB+	150°C	500	HRS	90	0
STORAGE LIFE		MAXM15462AMB+	150°C	500	HRS	90	0
STORAGE LIFE	1631	MAXM17532AMB+	150°C	1000	HRS	98	0
STORAGE LIFE	1631	MAXM17532AMB+	150°C	1000	HRS	99	0
STORAGE LIFE	1631	MAXM17532AMB+	150°C	1000	HRS	97	0
						<b>Total:</b>	<b>0</b>

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### TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL		MAXM17532AMB+	-65C TO +150C (Condition C)	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL		MAXM15462AMB+	-65C TO +150C (Condition C)	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL		MAXM15462AMB+	-65C TO +150C (Condition C)	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL		MAXM15462AMB+	-65C TO +150C (Condition C)	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL		MAXM15462AMB+	-65C TO +150C (Condition C)	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL		MAXM15462AMB+	-65C TO +150C (Condition C)	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL		MAXM15462AMB+	-65C TO +150C (Condition C)	1000 CYS	80	0	
TEMP CYCLE, 15' RAMP, 15' DWELL		MAXM15462AMB+	-40C TO +125C (Condition G)	500 CYS	266	0	
TEMP CYCLE, 15' RAMP, 15' DWELL		MAXM15462AMB+	-40C TO +125C (Condition G)	500 CYS	266	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1631	MAXM17532AMB+	-65C TO +150C (Condition C)	750 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1725	MAXM17532AMB+	-65C TO +150C (Condition C)	1000 CYS	130	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1725	MAXM17532AMB+	-65C TO +150C (Condition C)	500 CYS	131	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1725	MAXM17532AMB+	-65C TO +150C (Condition C)	1000 CYS	113	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1725	MAXM17532AMB+	-65C TO +150C (Condition C)	500 CYS	114	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1727	MAXM17532AMB+	-65C TO +150C (Condition C)	500 CYS	115	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1727	MAXM17532AMB+	-65C TO +150C (Condition C)	500 CYS	126	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1727	MAXM17532AMB+	-65C TO +150C (Condition C)	1000 CYS	126	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1727	MAXM17532AMB+	-65C TO +150C (Condition C)	500 CYS	88	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1727	MAXM17532AMB+	-65C TO +150C (Condition C)	1000 CYS	88	0	
						<b>Total:</b>	<b>0</b>

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### TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE		MAXM15462AMB+	85 C/85% R.H.	500 HRS	48	0	
BIASED MOISTURE		MAXM15462AMB+	85 C/85% R.H.	500 HRS	48	0	

BIASED MOISTURE		MAXM15462AMB+	85 C/85% R.H.	500	HRS	48	0
BIASED MOISTURE		MAXM15462AMB+	85 C/85% R.H.	500	HRS	32	0
BIASED MOISTURE		MAXM15462AMB+	85 C/85% R.H.	500	HRS	32	0
BIASED MOISTURE		MAXM15462AMB+	85 C/85% R.H.	500	HRS	32	0
BIASED MOISTURE	1650	MAXM17532AMB+	130C, 85% R.H.	264	HRS	41	0
						<b>Total:</b>	<b>0</b>

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**UNBIASED MOISTURE RESISTANCE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK		MAXM15462AMB+	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK		MAXM15462AMB+	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK		MAXM15462AMB+	130C, 85% R.H.	96	HRS	80	0
MOISTURE SOAK		MAXM15462AMB+	130C, 85% R.H.	96	HRS	90	0
MOISTURE SOAK	1631	MAXM17532AMB+	85 C/85% R.H.	1000	HRS	78	0
						<b>Total:</b>	<b>0</b>

**FAILURE RATE: MTTF (YRS): 68841 FITS: 1.7**