



7/19/2012

**RELIABILITY MONITOR REPORT
FOR**

MFN Silicon Gate 1.2 μ m CMOS (B12)

MAXIM Integrated Products

120 San Gabriel Dr.
Sunnyvale, CA 94086

**This Report was prepared by
Maxim Reliability Engineering**

Summary:

The data in the tables that follow was generated as the result of an on-going Process Reliability Monitor. The specific products in this process monitor are:

LM4050BEX3-2.	MAX1240AESA/	MAX15034BAUI	MAX4257ESA+	MAX4489AUA+
MAX6138BEXR	MAX6316LUK31	MAX6318MHUK	MAX6319LHUK	MAX6320PUK29
MAX6322HPUK				

The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 109398 QUANTITY: 664 FAILS: 0 FITS: 1.0

The parameters used to calculate this failure rate are as follows:

Cf: 60% Ea: 0.7 Tu: 25 °C

The reliability data follows and in this section is the detailed reliability data by stress. The reliability data section includes the latest data available. This report covers data between 7/1/2011 and 6/30/2012 .

Process Information:

Process Description: MFN Silicon Gate 1.2µm CMOS (B12)

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	1131	MAX15034BAUI+	135C	700 HRS	80	0	JMWYAQ002CL
HIGH TEMP OP LIFE	1131	MAX15034BAUI+	135C	708 HRS	75	0	JMWYAQ001CL
HIGH TEMP OP LIFE	1131	MAX4257ESA+	135C	1000 HRS	80	0	JL3BDA046E#
HIGH TEMP OP LIFE	1138	MAX15034BAUI+	135C	700 HRS	100	0	JMWYAQ003D
HIGH TEMP OP LIFE	1141	MAX6138BEXR25/V+T	135C	1000 HRS	79	0	N4V2CA096F
HIGH TEMP OP LIFE	1144	MAX6316LUK31BX+	135C	1000 HRS	90	0	JQLAIQ001B#
HIGH TEMP OP LIFE	1209	MAX4257ESA+	135C	1000 HRS	80	0	JL3BDA047C#
HIGH TEMP OP LIFE	1209	MAX4257ESA+	135C	1000 HRS	80	0	JL3BDA048D#
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	1121	MAX15034BAUI+	150C	500 HRS	50	0	JMWYAQ001IC
STORAGE LIFE	1131	MAX4257ESA+	150C	500 HRS	80	0	JL3BDA046E#
STORAGE LIFE	1140	MAX4489AUA+	150C	1000 HRS	50	0	J291EA101E#
STORAGE LIFE	1141	LM4050BEX3-2.5+	150C	1000 HRS	50	0	J57CEA080I#
STORAGE LIFE	1141	MAX6138BEXR25/V+T	150C	1024 HRS	50	0	N4V2CA096F
STORAGE LIFE	1143	MAX6320PUK29DY+	150C	1000 HRS	50	0	JQLEIQ001BC
STORAGE LIFE	1204	MAX1240AESA/V+	150C	500 HRS	50	0	JV7GFA124P#
STORAGE LIFE	1209	MAX4257ESA+	150C	500 HRS	80	0	JL3BDA047C#

STORAGE LIFE	1209	MAX4257ESA+	150C	500	HRS	80	0	JL3BDA048D#
Total:							0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
TEMP CYCLE, 5' RAMP, 10' DWELL	1121	MAX15034BAUI+	-65C TO 150C	1000	CYS	80	0 JMWYAQ001IB	
TEMP CYCLE, 5' RAMP, 10' DWELL	1121	MAX15034BAUI+	-65C TO 150C	1000	CYS	80	0 JMWYAQ001IA	
TEMP CYCLE, 5' RAMP, 10' DWELL	1131	MAX4257ESA+	-65C TO 150C	500	CYS	80	0 JL3BDA046E#	
TEMP CYCLE, 5' RAMP, 10' DWELL	1140	MAX4489AUA+	-65C TO 150C	500	CYS	80	0 J291EA101E#	
TEMP CYCLE, 5' RAMP, 10' DWELL	1141	LM4050BEX3-2.5+	-65C TO 150C	500	CYS	80	0 J57CEA080I#	
TEMP CYCLE, 5' RAMP, 10' DWELL	1141	LM4050BEX3-2.5+	-65C TO 150C	500	CYS	80	0 J57CEA080M#	
TEMP CYCLE, 5' RAMP, 10' DWELL	1141	LM4050BEX3-2.5+	-65C TO 150C	500	CYS	80	0 J57CEA080N#	
TEMP CYCLE, 5' RAMP, 10' DWELL	1141	MAX4489AUA+	-65C TO 150C	500	CYS	80	0 J291EA101D#	
TEMP CYCLE, 5' RAMP, 10' DWELL	1141	MAX4489AUA+	-65C TO 150C	500	CYS	80	0 J291EA104C#	
TEMP CYCLE, 5' RAMP, 10' DWELL	1141	MAX6138BEXR25/V+T	-65C TO 150C	1000	CYS	80	0 N4V2CA096F	
TEMP CYCLE, 5' RAMP, 10' DWELL	1143	MAX6320PUK29DY+	-65C TO 150C	500	CYS	80	0 JQLEIQ001BC	
TEMP CYCLE, 5' RAMP, 10' DWELL	1144	MAX6316LUK31BX+	-65C TO 150C	500	CYS	80	0 JQLAIQ001B#	
TEMP CYCLE, 5' RAMP, 10' DWELL	1147	MAX6319LHUK46C+	-65C TO 150C	500	CYS	80	0 JQLDIQ002AB	
TEMP CYCLE, 5' RAMP, 10' DWELL	1204	MAX1240AESA/V+	-65C TO 150C	500	CYS	80	0 JV7GFA124P#	
TEMP CYCLE, 5' RAMP, 10' DWELL	1204	MAX1240AESA/V+	-65C TO 150C	500	CYS	80	0 JV7GFA124O#	
TEMP CYCLE, 5' RAMP, 10' DWELL	1208	MAX6318MHUK46CY+	-65C TO 150C	500	CYS	80	0 JQLCIQ002CB	
TEMP CYCLE, 5' RAMP, 10' DWELL	1208	MAX6322HPUK46C+	-65C TO 150C	500	CYS	80	0 JQLGIQ002AB	
TEMP CYCLE, 5' RAMP, 10' DWELL	1209	MAX4257ESA+	-65C TO 150C	500	CYS	80	0 JL3BDA047C#	
TEMP CYCLE, 5' RAMP, 10' DWELL	1209	MAX4257ESA+	-65C TO 150C	500	CYS	80	0 JL3BDA048D#	
Total:							0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
BIASED MOISTURE	1131	MAX4257ESA+	130C, 85% R.H.	100	HRS	80	0 JL3BDA046E#

BIASED MOISTURE	1140	MAX4489AUA+	130C, 85% R.H.	100	HRS	30	0	J291EA101E#
BIASED MOISTURE	1141	LM4050BEX3-2.5+	130C, 85% R.H.	100	HRS	80	0	J57CEA080I#
BIASED MOISTURE	1141	LM4050BEX3-2.5+	130C, 85% R.H.	96	HRS	80	0	J57CEA080M#
BIASED MOISTURE	1141	LM4050BEX3-2.5+	130C, 85% R.H.	96	HRS	80	0	J57CEA080N#
BIASED MOISTURE	1143	MAX6320PUK29DY+	130C, 85% R.H.	96	HRS	80	0	JQLEIQ001BC
BIASED MOISTURE	1144	MAX6316LUK31BX+	130C, 85% R.H.	100	HRS	80	0	JQLAIQ001B#
BIASED MOISTURE	1147	MAX6319LHUK46C+	130C, 85% R.H.	96	HRS	80	0	JQLDIQ002AB
BIASED MOISTURE	1208	MAX6322HPUK46C+	130C, 85% R.H.	100	HRS	80	0	JQLGIQ002AB
Total:							0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
MOISTURE SOAK	1131	MAX4257ESA+	130C, 85% R.H.	100	HRS	80	0	JL3BDA046E#
MOISTURE SOAK	1140	MAX4489AUA+	130C, 85% R.H.	100	HRS	80	0	J291EA101E#
MOISTURE SOAK	1141	LM4050BEX3-2.5+	130C, 85% R.H.	100	HRS	78	0	J57CEA080I#
MOISTURE SOAK	1141	LM4050BEX3-2.5+	130C, 85% R.H.	96	HRS	80	0	J57CEA080M#
MOISTURE SOAK	1141	LM4050BEX3-2.5+	130C, 85% R.H.	96	HRS	80	0	J57CEA080N#
MOISTURE SOAK	1141	MAX4489AUA+	130C, 85% R.H.	100	HRS	80	0	J291EA101D#
MOISTURE SOAK	1141	MAX4489AUA+	130C, 85% R.H.	100	HRS	80	0	J291EA104C#
MOISTURE SOAK	1143	MAX6320PUK29DY+	130C, 85% R.H.	96	HRS	80	0	JQLEIQ001BC
MOISTURE SOAK	1144	MAX6316LUK31BX+	130C, 85% R.H.	100	HRS	80	0	JQLAIQ001B#
MOISTURE SOAK	1208	MAX6322HPUK46C+	130C, 85% R.H.	100	HRS	80	0	JQLGIQ002AB
Total:							0	

FAILURE RATE: MTTF (YRS): 109398 QUANTITY: 664 FAILS: 0 FITS: 1.0