



5/9/2009

RELIABILITY MONITOR REPORT
FOR

MFN 1.2 μ m Silicon Gate CMOS

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:

LM4040CEM3-5.	LM4040CIX3-5.0	LM4050AEM3-2.	LM4050BEM3-5.	LM4050CEM3-5.
MAX1295BCEI+	MAX15033BAUI	MAX1617MEE	MAX16818ATI+	MAX4257ESA+
MAX5037AEMH	MAX5621UTK+	MAX6006BESA+	MAX6033AAUT	MAX6033AUI25
MAX6033AUT25	MAX6102EUR+	MAX618EEE+	MAX8863TEUK	MAX8877EZK29
MAX9928TAUA	MAX9937AXK+			

The calculated failure rate for devices using this process is:

FAILURE RATE: **MTTF (YRS): 50765** **FITS: 2.2**

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 and

Process Information:

Process Description: MFN 1.2µm Silicon Gate CMOS

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	0727	MAX4257ESA+	135C	192 HRS	50	0	JL3BDQ001AQ
HIGH TEMP OP LIFE	0805	LM4040CIX3-5.0+	135C	500 HRS	90	0	J57FEA006B#
HIGH TEMP OP LIFE	0805	MAX1617MEE	135C	500 HRS	80	0	J4BAMA041A
HIGH TEMP OP LIFE	0806	LM4050CEM3-5.0+	135C	700 HRS	78	0	J57FEA006A#
HIGH TEMP OP LIFE	0808	MAX5037AEMH+	135C	1000 HRS	45	0	NIQ0BQ002Q3
HIGH TEMP OP LIFE	0811	MAX16818ATI+	135C	192 HRS	48	0	JPH0DA007AQ
HIGH TEMP OP LIFE	0813	MAX8863TEUK+T	135C	1000 HRS	48	0	NJZAGA123Q1
HIGH TEMP OP LIFE	0813	MAX8863TEUK+T	135C	1000 HRS	48	0	NJZAGA123Q2
HIGH TEMP OP LIFE	0813	MAX8863TEUK+T	135C	1000 HRS	48	0	NJZAGA123Q3
HIGH TEMP OP LIFE	0814	MAX15033BAUI+	135C	192 HRS	46	0	JMWZAQ001CQ
HIGH TEMP OP LIFE	0819	MAX6102EUR+	135C	192 HRS	50	0	J5HAEQ001DQ
HIGH TEMP OP LIFE	0822	MAX9928TAUA+	135C	192 HRS	50	0	JHLXBQ001BQ
HIGH TEMP OP LIFE	0825	MAX9937AXK+T	135C	192 HRS	49	0	JQJZAQ001EQ
HIGH TEMP OP LIFE	0826	MAX1295BCEI+	135C	192 HRS	50	0	J9EAFQ002HQ
HIGH TEMP OP LIFE	0841	MAX618EEE+	135C	138 HRS	76	0	NQKADA056H#
HIGH TEMP OP LIFE	0845	MAX618EEE+	135C	138 HRS	12	0	NQRADA056A
HIGH TEMP OP LIFE	0852	MAX618EEE+	135C	138 HRS	77	0	NQRAD3057B
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	0803	MAX8877EZK29+T	150C	1000 HRS	80	0	NM2AEA204Q1
STORAGE LIFE	0803	MAX8877EZK29+T	150C	1000 HRS	80	0	NM2AEA204Q2
STORAGE LIFE	0803	MAX8877EZK29+T	150C	1000 HRS	79	0	NM2AEA204Q3
STORAGE LIFE	0805	MAX1617MEE	150C	1000 HRS	80	0	J4BAMA041A
STORAGE LIFE	0808	MAX6006BESA+	150C	1000 HRS	80	0	N93ACU046Q1
STORAGE LIFE	0808	MAX6006BESA+	150C	1000 HRS	80	0	N93ACU046Q2
STORAGE LIFE	0808	MAX6006BESA+	150C	1000 HRS	80	0	N93ACU046Q3
STORAGE LIFE	0808	MAX5037AEMH+	150C	1000 HRS	79	0	NIQ0BQ002Q1
STORAGE LIFE	0808	MAX5037AEMH+	150C	1000 HRS	79	0	NIQ0BQ002Q2
STORAGE LIFE	0808	MAX5037AEMH+	150C	1000 HRS	75	0	NIQ0BQ002Q3
STORAGE LIFE	0813	MAX8863TEUK+T	150C	1000 HRS	80	0	NJZAGA123Q1
STORAGE LIFE	0813	MAX8863TEUK+T	150C	1000 HRS	80	0	NJZAGA123Q2
STORAGE LIFE	0813	MAX8863TEUK+T	150C	1000 HRS	80	0	NJZAGA123Q3
STORAGE LIFE	0819	MAX6033AAUT25+	150C	500 HRS	80	0	N5L0CA017H
STORAGE LIFE	0819	MAX6033AUI25+	150C	1000 HRS	80	0	N5L0CA017#
STORAGE LIFE	0819	MAX6033AAUT25+	150C	1000 HRS	80	0	N5L0CA017HA
STORAGE LIFE	0819	MAX6033AAUT25+	150C	1000 HRS	78	0	N5L0CA017HB
STORAGE LIFE	0847	MAX5621UTK+	150C	500 HRS	77	0	J3G0GQ003Q1
STORAGE LIFE	0847	MAX5621UTK+	150C	500 HRS	77	0	J3G0GQ003Q3
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 5' RAMP, 10' DWELL	0803	MAX8877EZK29+T	-65C TO 150C	1000 CYS	79	0	NM2AEA204Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	0803	MAX8877EZK29+T	-65C TO 150C	1000 CYS	80	0	NM2AEA204Q3
TEMP CYCLE, 5' RAMP, 10' DWELL	0806	LM4040CEM3-5.0+	-65C TO 150C	1000 CYS	76	0	J57FEA006C
TEMP CYCLE, 5' RAMP, 10' DWELL	0808	MAX6006BESA+	-65C TO 150C	1000 CYS	80	0	N93ACU046Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	0808	MAX6006BESA+	-65C TO 150C	1000 CYS	80	0	N93ACU046Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	0808	MAX6006BESA+	-65C TO 150C	1000 CYS	80	0	N93ACU046Q3
TEMP CYCLE, 5' RAMP, 10' DWELL	0808	MAX5037AEMH+	-65C TO 150C	1000 CYS	80	0	NIQ0BQ002Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	0808	MAX5037AEMH+	-65C TO 150C	1000 CYS	80	0	NIQ0BQ002Q2

TEMP CYCLE, 5' RAMP, 10' DWELL	0808	MAX5037AEMH+	-65C TO 150C	1000	CYS	74	0	NIQ0BQ002Q3
TEMP CYCLE, 5' RAMP, 10' DWELL	0810	LM4050AEM3-2.1+	-65C TO 150C	500	CYS	80	0	J57BEQ003A#
TEMP CYCLE, 5' RAMP, 10' DWELL	0810	LM4050AEM3-2.1+	-65C TO 150C	1000	CYS	80	1	J57BEQ003A
TEMP CYCLE, 5' RAMP, 10' DWELL	0810	LM4040CEM3-5.0+	-65C TO 150C	1000	CYS	249	0	J57FEA006A#
TEMP CYCLE, 5' RAMP, 10' DWELL	0810	LM4050BEM3-5.0+	-65C TO 150C	500	CYS	80	0	J57FEA006G#
TEMP CYCLE, 5' RAMP, 10' DWELL	0813	MAX8863TEUK+T	-65C TO 150C	500	CYS	80	0	NJZAGA123Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	0813	MAX8863TEUK+T	-65C TO 150C	500	CYS	80	0	NJZAGA123Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	0813	MAX8863TEUK+T	-65C TO 150C	500	CYS	80	0	NJZAGA123Q3
TEMP CYCLE, 5' RAMP, 10' DWELL	0819	MAX6033AAUT25+	-65C TO 150C	1000	CYS	78	0	N5L0CA017H
TEMP CYCLE, 5' RAMP, 10' DWELL	0819	MAX6033AUT25+	-65C TO 150C	1000	CYS	79	0	N5L0CA017HB
TEMP CYCLE, 5' RAMP, 10' DWELL	0847	MAX5621UTK+	-65C TO 150C	500	CYS	77	0	J3G0GQ003Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	0847	MAX5621UTK+	-65C TO 150C	550	CYS	77	0	J3G0GQ003Q3
Total:							1	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
MOISTURE SOAK	0808	MAX6006BESA+	85 C/85% R.H.	1000 HRS	45	0	N93ACU046Q1
MOISTURE SOAK	0808	MAX6006BESA+	85 C/85% R.H.	1000 HRS	50	0	N93ACU046Q2
MOISTURE SOAK	0808	MAX6006BESA+	85 C/85% R.H.	1000 HRS	45	0	N93ACU046Q3
Total:						0	

FAILURE RATE:

MTTF (YRS): 50765

FITS: 2.2