



4/8/2009

RELIABILITY MONITOR REPORT
FOR

MFN Standard Metal 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:

DG211CSE	DG211CSE+	MAX1232CPA	MAX1232CPA+	MAX1232CSA
MAX1232CSA+	MAX232CSE	MAX369CPN	MAX369CPN+	MAX7705201XC

The calculated failure rate for devices using this process is:

FAILURE RATE: **MTTF (YRS): 79063** **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 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 7/1/2007 and 6/30/2008 .

Process Information:

Process Description: MFN Standard Metal Gate CMOS

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	0648	DG211CSE	135C	1000 HRS	80	0	NRCAEA172H
HIGH TEMP OP LIFE	0707	DG211CSE	135C	1000 HRS	60	0	NRCAEA177C
HIGH TEMP OP LIFE	0722	MAX1232CPA	135C	1000 HRS	80	0	NPPADA649G
HIGH TEMP OP LIFE	0746	MAX369CPN+	135C	1000 HRS	49	0	NRXBBA011Q1
HIGH TEMP OP LIFE	0746	MAX369CPN+	135C	1000 HRS	50	0	NRXBBA011Q2
HIGH TEMP OP LIFE	0746	MAX369CPN+	135C	1000 HRS	50	0	NRXBBA011Q3
HIGH TEMP OP LIFE	0804	MAX1232CPA+	135C	500 HRS	80	0	NPPADA675B
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	0722	MAX1232CPA	150C	1000 HRS	80	0	NPPADA649G
STORAGE LIFE	0737	MAX1232CSA+	150C	1000 HRS	80	0	NPPADA664A#
STORAGE LIFE	0746	MAX369CPN+	150C	500 HRS	77	0	NRXBBA011Q2
STORAGE LIFE	0746	MAX369CPN+	150C	1000 HRS	75	0	NRXBBA011Q1
STORAGE LIFE	0746	MAX369CPN+	150C	500 HRS	77	0	NRXBBA011Q3
STORAGE LIFE	0746	MAX369CPN	150C	1000 HRS	77	0	NRXBBA011Q3
STORAGE LIFE	0802	DG211CSE+	150C	1000 HRS	80	0	NRCAEA194B
STORAGE LIFE	0804	MAX1232CPA+	150C	1000 HRS	80	0	NPPADA675B
STORAGE LIFE	0805	MAX232CSE	150C	1000 HRS	80	0	NHUBBA6Q9B
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 5' RAMP, 10' DWELL	0722	MAX1232CPA	-65C TO 150C	1000 CYS	80	0	NPPADA649G
TEMP CYCLE, 5' RAMP, 10' DWELL	0737	MAX1232CSA	-65C TO 150C	500 CYS	80	0	NPPADA664A#
TEMP CYCLE, 5' RAMP, 10' DWELL	0737	MAX1232CSA+	-65C TO 150C	1000 CYS	80	0	NPPADA664A#
TEMP CYCLE, 5' RAMP, 10' DWELL	0746	MAX369CPN+	-65C TO 150C	1000 CYS	77	0	NRXBBA011Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	0746	MAX369CPN+	-65C TO 150C	1000 CYS	77	0	NRXBBA011Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	0746	MAX369CPN	-65C TO 150C	500 CYS	77	0	NRXBBA011Q3
TEMP CYCLE, 5' RAMP, 10' DWELL	0746	MAX369CPN+	-65C TO 150C	1000 CYS	75	0	NRXBBA011Q3
TEMP CYCLE, 5' RAMP, 10' DWELL	0802	DG211CSE+	-65C TO 150C	1000 CYS	80	0	NRCAEA194B
TEMP CYCLE, 5' RAMP, 10' DWELL	0804	MAX1232CPA+	-65C TO 150C	1000 CYS	80	0	NPPADA675B
TEMP CYCLE, 5' RAMP, 10' DWELL	0805	MAX232CSE	-65C TO 150C	500 CYS	80	0	NHUBBA6Q9B
TEMP CYCLE, 5' RAMP, 10' DWELL	0805	MAX232CSE	-65C TO 150C	1000 CYS	80	0	NHUBBAA6Q9B
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
BIASED MOISTURE	0722	MAX1232CPA	130C, 85% R.H.	96 HRS	50	0	NPPADA649G
BIASED MOISTURE	0746	MAX369CPN+	130C, 85% R.H.	96 HRS	50	0	NRXBBA011Q1
BIASED MOISTURE	0746	MAX369CPN+	130C, 85% R.H.	96 HRS	50	0	NRXBBA011Q2
BIASED MOISTURE	0746	MAX369CPN	130C, 85% R.H.	96 HRS	50	0	NRXBBA011Q3
Total:						0	

FAILURE RATE:**MTTF (YRS): 79063****FITS: 1.4**