



4/8/2009

**RELIABILITY MONITOR REPORT
FOR**

MFN 5 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:

DG413DY+	MAX1771EPA	MAX232AEWE	MAX232AEWE+	MAX312ESE+
MAX313CSE	MAX313CSE+	MAX313ESE+	MAX335CNG	MAX4661EAE+
MAX734CSA	MAX734CSA+	MAX868EUB+		

The calculated failure rate for devices using this process is:

FAILURE RATE: **MTTF (YRS): 145046** **FITS: 0.8**

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 5µm Silicon Gate CMOS

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	0613	MAX1771EPA	135C	1000 HRS	122	0	NTTFFA417D#
HIGH TEMP OP LIFE	0717	MAX312ESE+	135C	1000 HRS	50	0	NJHABA391Q1
HIGH TEMP OP LIFE	0717	MAX312ESE+	135C	1000 HRS	50	0	NJHABA391Q2
HIGH TEMP OP LIFE	0717	MAX312ESE+	135C	1000 HRS	50	0	NJHABA391Q3
HIGH TEMP OP LIFE	0719	MAX313CSE+	135C	500 HRS	80	0	NJHBBA392D
HIGH TEMP OP LIFE	0719	MAX313CSE	135C	1000 HRS	79	0	NJBBA392D
HIGH TEMP OP LIFE	0722	MAX232AEWE+	135C	500 HRS	80	0	NQS0AA864A
HIGH TEMP OP LIFE	0722	MAX232AEWE	135C	1000 HRS	80	0	NQS0AA864A
HIGH TEMP OP LIFE	0735	DG413DY+	135C	1000 HRS	80	0	NRLCGA370C
HIGH TEMP OP LIFE	0735	DG413DY+	135C	1000 HRS	80	0	NRLCGA367A
HIGH TEMP OP LIFE	0735	MAX335CNG	135C	1000 HRS	80	0	NCSACA079F
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	0722	MAX232AEWE+	150C	1000 HRS	80	0	NQS0AA864A
STORAGE LIFE	0735	MAX313ESE+	150C	1000 HRS	80	0	NJHBBA405D
STORAGE LIFE	0752	MAX734CSA+	150C	500 HRS	80	0	NSDAHA099Q1
STORAGE LIFE	0752	MAX734CSA	150C	1000 HRS	80	0	NSDAHA099Q1
STORAGE LIFE	0752	MAX734CSA+	150C	500 HRS	80	0	NSDAHA099Q2
STORAGE LIFE	0752	MAX734CSA	150C	1000 HRS	80	0	NSDAHA099Q2
STORAGE LIFE	0752	MAX734CSA+	150C	500 HRS	80	0	NSDAHA099Q3

STORAGE LIFE	0752	MAX734CSA	150C	1000	HRS	80	0	NSDAHA099Q3
STORAGE LIFE	0803	MAX313CSE+	150C	1000	HRS	80	0	NJHBBA416E
STORAGE LIFE	S5HV	MAX313CSE+	150C	1000	HRS	80	0	NJHBBA392D
Total:							0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
TEMP CYCLE, 5' RAMP, 10' DWELL	071	MAX313CSE+	-65C TO 150C	1000	CYS	80	0	NJHBBA392D
TEMP CYCLE, 5' RAMP, 10' DWELL	0719	MAX313CSE+	-65C TO 150C	500	CYS	80	0	NJHBBA392D
TEMP CYCLE, 5' RAMP, 10' DWELL	0722	MAX232AEWE+	-65C TO 150C	1000	CYS	80	0	NQS0AA864A
TEMP CYCLE, 5' RAMP, 10' DWELL	0735	MAX313ESE+	-65C TO 150C	1000	CYS	79	0	NJHBBA405D
TEMP CYCLE, 5' RAMP, 10' DWELL	0752	MAX734CSA+	-65C TO 150C	1000	CYS	80	0	NSDAHA099Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	0752	MAX734CSA+	-65C TO 150C	1000	CYS	80	0	NSDAHA099Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	0752	MAX734CSA+	-65C TO 150C	1000	CYS	80	0	NSDAHA099Q3
TEMP CYCLE, 5' RAMP, 10' DWELL	0803	MAX313CSE+	-65C TO 150C	1000	CYS	80	0	NJHBBA416E
Total:							0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
BIASED MOISTURE	0722	MAX232AEWE+	130C, 85% R.H.	96	HRS	50	0	NQS0AA864A
BIASED MOISTURE	0735	DG413DY+	130C, 85% R.H.	96	HRS	48	0	NRLCGA367A
BIASED MOISTURE	0735	MAX335CNG	130C, 85% R.H.	96	HRS	48	0	NCSACA079F
BIASED MOISTURE	0744	MAX4661EAE+	130C, 85% R.H.	96	HRS	48	0	N77ABA230A
BIASED MOISTURE	0752	MAX734CSA+	130C, 85% R.H.	96	HRS	50	0	NSDAHA099Q2
BIASED MOISTURE	0752	MAX734CSA+	130C, 85% R.H.	96	HRS	50	0	NSDAHA099Q3
Total:							0	

FAILURE RATE: MTTF (YRS): 145046 FITS: 0.8