



4/11/2009

RELIABILITY MONITOR REPORT  
FOR

**MFN 5 $\mu$ m Silicon Gate CMOS**

**MAXIM Integrated Products**

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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+	MAX232AEWE	MAX312ESE+	MAX313CSE	MAX313CSE+
MAX313ESE+	MAX335CNG	MAX4661EAE+	MAX734CSA	MAX734CSA+

The calculated failure rate for devices using this process is:

**FAILURE RATE:**                      **MTTF (YRS): 106192**                      **FITS: 1.1**

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 10/1/2007 and 9/30/2008 .

**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	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	1000 HRS	79	0	NJBBA392D
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
<b>Total:</b>						<b>0</b>	

**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
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
<b>Total:</b>						<b>0</b>	

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**TEMPERATURE CYCLE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
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
<b>Total:</b>						<b>0</b>	

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**TEMPERATURE HUMIDITY BIAS**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
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
<b>Total:</b>						<b>0</b>	

**FAILURE RATE:****MTTF (YRS): 106192****FITS: 1.1**