



7/19/2012

**RELIABILITY MONITOR REPORT
FOR**

X3 Silicon Gate 0.4 μ m CMOS (S4)

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:

MAX15059ETE+	MAX16838AUP/	MAX16940AUI/	MAX17130ETL+	MAX44000GDT
MAX5971AETI+	MAX5971BETI+	MAX8643ETG+	MAX8901BETA	MAX9635EDT+
MAX9635EDT+				

The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 75930 QUANTITY: 697 FAILS: 0 FITS: 1.5

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: X3 Silicon Gate 0.4µm CMOS (S4)

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE		MAX44000GDT+T	135C	192 HRS	80	0	SU1ZDQ003DA
HIGH TEMP OP LIFE		MAX44000GDT+T	135C	192 HRS	80	0	SU1ZDQ003DB
HIGH TEMP OP LIFE		MAX44000GDT+T	135C	192 HRS	80	0	SU1ZDQ003DC
HIGH TEMP OP LIFE	1025	MAX17130ETL+	135C	264 HRS	38	0	SD1ZDQ003DQ
HIGH TEMP OP LIFE	1029	MAX5971BETI+	135C	192 HRS	45	0	SYZYCQ002CQ
HIGH TEMP OP LIFE	1107	MAX8901BETA+T	135C	1000 HRS	45	0	SFBZEA035Q1
HIGH TEMP OP LIFE	1107	MAX8901BETA+T	135C	1000 HRS	45	0	SFBZEA035Q2
HIGH TEMP OP LIFE	1107	MAX8901BETA+T	135C	1000 HRS	45	0	SFBZEA035Q3
HIGH TEMP OP LIFE	1210	MAX9635EDT+T	135C	1000 HRS	80	0	SF0VAA018Q1
HIGH TEMP OP LIFE	1210	MAX9635EDT+	135C	1000 HRS	80	0	SF0VAA018Q2
HIGH TEMP OP LIFE	1210	MAX9635EDT+T	135C	1000 HRS	79	0	SF0VAA018Q3
				Total:		0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	0940	MAX16940AUI/V+	150C	500 HRS	45	0	SWYZCQ001BV
STORAGE LIFE	0940	MAX16940AUI/V+	150C	1000 HRS	45	0	SWYZCQ001BV
STORAGE LIFE	1025	MAX16838AUP/V+	150C	500 HRS	50	0	SWCZEQ002A
STORAGE LIFE	1124	MAX16940AUI/V+	150C	1000 HRS	45	0	SWYZCQ001D
STORAGE LIFE	1142	MAX16838AUP/V+	150C	1048 HRS	77	0	SWCZEA004AA
STORAGE LIFE	1210	MAX9635EDT+T	150C	1000 HRS	80	0	SF0VAA018Q1

STORAGE LIFE	1210	MAX9635EDT+T	150C	1000	HRS	80	0	SF0VAA018Q2
STORAGE LIFE	1210	MAX9635EDT+T	150C	1000	HRS	80	0	SF0VAA018Q3
STORAGE LIFE	N/A	MAX44000GDT+T	150C	1000	HRS	80	0	SU1ZDQ003DB
Total:							0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
TEMP CYCLE, 5' RAMP, 10' DWELL		MAX9635EDT+T	-65C TO 150C	1000	CYS	100	0 SF0VAA018J	
TEMP CYCLE, 5' RAMP, 10' DWELL	0940	MAX16940AUI/V+	-65C TO 150C	500	CYS	77	0 SWYZCQ001BV	
TEMP CYCLE, 5' RAMP, 10' DWELL	1005	MAX15059ETE+	-65C TO 150C	1000	CYS	77	0 SF2ZAQ001B	
TEMP CYCLE, 5' RAMP, 10' DWELL	1103	MAX5971AETI+	-65C TO 150C	1000	CYS	77	0 SYZZCA004B	
TEMP CYCLE, 5' RAMP, 10' DWELL	1119	MAX16838AUP/V+	-65C TO 150C	1000	CYS	77	0 SWCZEQ003CN	
TEMP CYCLE, 5' RAMP, 10' DWELL	1124	MAX16940AUI/V+	-65C TO 150C	1000	CYS	77	0 SWYZCQ001D	
TEMP CYCLE, 5' RAMP, 10' DWELL	1124	MAX16940AUI/V+	-65C TO 150C	500	CYS	77	0 SWYZCQ001E	
TEMP CYCLE, 5' RAMP, 10' DWELL	1138	MAX8643ETG+	-65C TO 150C	1000	CYS	596	0 TM0AEA280F	
TEMP CYCLE, 5' RAMP, 10' DWELL	1142	MAX16838AUP/V+	-65C TO 150C	1000	CYS	77	0 SWCZEA008AB	
TEMP CYCLE, 15' RAMP, 15' DWELL	1210	MAX9635EDT+T	-40C TO +125C	1000	CYS	80	0 SF0VAA018Q1	
TEMP CYCLE, 15' RAMP, 15' DWELL	1210	MAX9635EDT+T	-40C TO +125C	1000	CYS	80	0 SF0VAA018Q2	
TEMP CYCLE, 15' RAMP, 15' DWELL	1210	MAX9635EDT+T	-40C TO +125C	1000	CYS	80	0 SF0VAA018Q3	
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX44000GDT+T	-65C TO 150C	1000	CYS	80	1 SU1ZDQ003DA	
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX9635EDT+T	-40C TO +125C	500	CYS	100	0 SF0VAA018J	
Total:							1	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
MOISTURE SOAK	1124	MAX16940AUI/V+	130C, 85% R.H.	100	HRS	77	0 SWYZCQ001D
MOISTURE SOAK	1124	MAX16940AUI/V+	130C, 85% R.H.	100	HRS	77	0 SWYZCQ001E
MOISTURE SOAK	1131	MAX44000GDT+T	85 C/85% R.H.	1000	HRS	76	0 SU1ZDQ003DA
MOISTURE SOAK	1131	MAX44000GDT+T	85 C/85% R.H.	1000	HRS	77	0 SU1ZDQ003
MOISTURE SOAK	1131	MAX9635EDT+	85 C/85% R.H.	1000	HRS	29	0 SF0VAA018MA
MOISTURE SOAK	1131	MAX9635EDT+	85 C/85% R.H.	1000	HRS	29	0 SF0VAA018MB

MOISTURE SOAK	1131	MAX9635EDT+	85 C/85% R.H.	1000	HRS	29	0	SF0VAA018MC
MOISTURE SOAK	1210	MAX9635EDT+T	85 C/85% R.H.	1000	HRS	44	0	SF0VAA018Q2
MOISTURE SOAK	1210	MAX9635EDT+T	85 C/85% R.H.	1000	HRS	80	1	SF0VAA018Q3
						Total:	1	
FAILURE RATE:	MTTF (YRS):	75930	QUANTITY:	697	FAILS:	0	FITS:	1.5