



5/9/2009

**RELIABILITY MONITOR REPORT
FOR**

X3 0.4 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:

DS2733	DS8500	MAX13330GEE/	MAX13331GEE/	MAX15039ETG+
MAX1510ETB	MAX1510ETB+	MAX16822AAS	MAX16832CASA	MAX16836ATE+
MAX17000ETG+	MAX17008GTI+	MAX17016ETL+	MAX17022ETA+	MAX17061ETI+
MAX17067EUA+	MAX17088ETX+	MAX17105ETG+	MAX17109ETJ+	MAX1785EUU+
MAX1786EUI+	MAX4909EWC+	MAX4944ELA+T	MAX8556ETE+	MAX8557ETE+
MAX8611VETM	MAX8625AETD	MAX8653ETI+	MAX8662ETM+	MAX8670AETL+
MAX8676EWJ+T	MAX8683ETM+	MAX8697SEWQ	MAX8795AETJ+	MAX8795AGCJ+
MAX8821ETI+	MAX8857AETL+	MAX9516ALB+	MAX9736BETJ+	MAX9744ETH+
MAX9924UAUB	MAXQ3180			

The calculated failure rate for devices using this process is:

FAILURE RATE: **MTTF (YRS): 139515** **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 and

Process Information:

Process Description: X3 0.4µm Silicon Gate CMOS

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE		MAX17109ETJ+	135C	192 HRS	50	0	SSUZBQ001C
HIGH TEMP OP LIFE	0634	MAX8670AETL+	135C	192 HRS	47	0	SU44BA072CQ
HIGH TEMP OP LIFE	0650	MAX8662ETM+	135C	192 HRS	48	0	SU40GA165DQ
HIGH TEMP OP LIFE	0650	MAX1510ETB	135C	1000 HRS	48	0	SJM0BA018A#
HIGH TEMP OP LIFE	0711	MAX8625AETD+	135C	192 HRS	50	0	SCT0FY002BQ
HIGH TEMP OP LIFE	0726	MAX9516ALB+	135C	192 HRS	48	0	SDJZCQ002BQ
HIGH TEMP OP LIFE	0728	MAX8653ETI+	135C	192 HRS	48	0	SP00DQ003BQ
HIGH TEMP OP LIFE	0736	MAX8795AETJ+	135C	500 HRS	43	0	SAHYCA007B#
HIGH TEMP OP LIFE	0737	MAX17067EUA+	135C	192 HRS	48	0	SKEZAQ001CQ
HIGH TEMP OP LIFE	0737	MAX9736BETJ+	135C	192 HRS	47	0	SFUYPQ001AQ
HIGH TEMP OP LIFE	0738	MAX17016ETL+	135C	192 HRS	48	0	SCFTAAGQ
HIGH TEMP OP LIFE	0739	MAX8683ETM+	135C	192 HRS	55	0	SFTZBQ001AQ
HIGH TEMP OP LIFE	0740	MAX8857AETL+	135C	1000 HRS	45	0	SGJZE3002C#
HIGH TEMP OP LIFE	0746	MAX8821ETI+	135C	192 HRS	50	0	SCRZBQ003AQ
HIGH TEMP OP LIFE	0747	MAX17000ETG+	135C	192 HRS	48	0	SEBZBQ001BQ
HIGH TEMP OP LIFE	0749	MAXQ3180	125C, 3.6 VOLTS	1000 HRS	44	0	QK774000AAA

HIGH TEMP OP LIFE	0804	MAX9744ETH+	135C	192	HRS	48	0	ST30DA008CQ
HIGH TEMP OP LIFE	0807	MAX16836ATE+	135C	500	HRS	80	0	SGIZEQ001FA
HIGH TEMP OP LIFE	0808	MAX16836ATE+	135C	500	HRS	69	0	SG1ZEQ002E
HIGH TEMP OP LIFE	0814	MAX1786EUI+	135C	192	HRS	48	0	SIOYCZ008FQ
HIGH TEMP OP LIFE	0819	DS2733	125C, 13.31V (PSB) & 3.5V (PSA)	1000	HRS	45	0	XJ881600BB-NPI
HIGH TEMP OP LIFE	0825	MAX17061ETI+	135C	500	HRS	47	0	SHCYDA006E#
HIGH TEMP OP LIFE	0826	MAX15039ETG+	135C	192	HRS	48	0	SQAZAQ001BQ
HIGH TEMP OP LIFE	0826	MAX16822AASA+	135C	192	HRS	80	0	SNCZAQ001EA
HIGH TEMP OP LIFE	0829	MAX9924UAUB+	135C	192	HRS	48	0	SIDZCQ002BQ
HIGH TEMP OP LIFE	0831	MAX16832CASA+	135C	192	HRS	48	0	SNCWBQ001BQ
HIGH TEMP OP LIFE	0833	MAX8857AETL+	135C	500	HRS	80	0	SGJZEA065BD
HIGH TEMP OP LIFE	0833	MAX8857AETL+	135C	1000	HRS	80	0	SGJZEA06580
HIGH TEMP OP LIFE	0835	DS8500	125C, 3.6 VOLTS	1000	HRS	45	0	QJ982700ABA
HIGH TEMP OP LIFE	0836	MAX17105ETG+	135C	192	HRS	48	0	SSAZBQ001BQ
HIGH TEMP OP LIFE	0839	MAX17022ETA+	135C	192	HRS	48	0	SIMZCQ002EQ
HIGH TEMP OP LIFE	0839	MAX13331GEE/V+	135C	192	HRS	50	0	SODYBQ001CQ
HIGH TEMP OP LIFE	0839	MAX13330GEE/V+	135C	192	HRS	48	0	SODZBQ001CQ
HIGH TEMP OP LIFE	0842	MAX17008GTI+	135C	192	HRS	48	0	SDQYAA004BQ
HIGH TEMP OP LIFE	0844	MAX8611VETM+	135C	500	HRS	45	0	SVZ4EA6B7Q4
HIGH TEMP OP LIFE	0844	MAX8611VETM+	135C	500	HRS	45	0	SVZ4EA6B7Q5
HIGH TEMP OP LIFE	0844	MAX8611VETM+	135C	500	HRS	45	0	SVZ4EA6B7Q6
HIGH TEMP OP LIFE	0850	MAX17088ETX+	135C	192	HRS	50	0	SRIZDQ001BQ
HIGH TEMP OP LIFE	746	MAX1785EUI+	135C	1000	HRS	80	0	SK61H2041A
Total:							0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	0726	MAX8795AGCJ+	150C	1000 HRS	78	0	SAHYCA004B#
STORAGE LIFE	0746	MAX1785EUI+	150C	1000 HRS	80	0	SK61H2041A
STORAGE LIFE	0803	MAX1510ETB+	150C	1000 HRS	80	0	SJM0CA046GB
STORAGE LIFE	0807	MAX16836ATE+	150C	1000 HRS	80	0	SG1ZEQ001FA
STORAGE LIFE	0844	MAX8611VETM+	150C	500 HRS	77	0	SVZ4EA6B7Q4
STORAGE LIFE	0844	MAX8611VETM+	150C	1000 HRS	77	0	SVZ4EA6B7Q5
STORAGE LIFE	0844	MAX8611VETM+	150C	1000 HRS	77	0	SVZ4EA6B7Q6
STORAGE LIFE	0850	MAX17088ETX+	150C	500 HRS	80	0	SRIZDQ001BA
STORAGE LIFE	0851	MAX17088ETX+	150C	1000 HRS	80	0	SRIZDQ001BC
STORAGE LIFE	N/A	MAX8697SEWQ+T	150C	500 HRS	67	0	SKQYBY001A

Total: 0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 5' RAMP, 10' DWELL	0726	MAX8795AGCJ+	-65C TO 150C	1000 CYS	77	0	SAHYCA004B#
TEMP CYCLE, 5' RAMP, 10' DWELL	0740	MAX8857AETL+	-65C TO 150C	1000 CYS	80	0	SGJZEE3002C#
TEMP CYCLE, 5' RAMP, 10' DWELL	0751	MAX8556ETE+	-65C TO 150C	400 CYS	80	0	SNAOHA027J
TEMP CYCLE, 5' RAMP, 10' DWELL	0751	MAX8557ETE+	-65C TO 150C	1000 CYS	80	0	SNA0HA027J
TEMP CYCLE, 5' RAMP, 10' DWELL	0803	MAX1510ETB+	-65C TO 150C	1000 CYS	80	0	SJM0CA046GB
TEMP CYCLE, 5' RAMP, 10' DWELL	0805	MAX4944ELA+T	-65C TO 150C	1000 CYS	290	0	SY91D3044AB
TEMP CYCLE, 5' RAMP, 10' DWELL	0805	MAX4944ELA+T	-65C TO 150C	1000 CYS	289	0	SY91D3044AC
TEMP CYCLE, 5' RAMP, 10' DWELL	0807	MAX16836ATE+	-65C TO 150C	1000 CYS	80	0	SG1ZEQ001FA
TEMP CYCLE, 5' RAMP, 10' DWELL	0815	MAX8556ETE+	-65C TO 150C	881 CYS	76	0	SNA0HA030B
TEMP CYCLE, 5' RAMP, 10' DWELL	0815	MAX8556ETE+	-65C TO 150C	1000 CYS	76	0	SNAOHA030B
TEMP CYCLE, 5' RAMP, 10' DWELL	0825	MAX17061ETI+	-65C TO 150C	950 CYS	80	0	SHCYDA006E#
TEMP CYCLE, 5' RAMP, 10' DWELL	0833	MAX8857AETL+	-65C TO 150C	1000 CYS	75	0	SGJZEA065BD
TEMP CYCLE, 5' RAMP, 10' DWELL	0844	MAX8611VETM+	-65C TO 150C	1000 CYS	77	0	SVZ4EA6B7Q4
TEMP CYCLE, 5' RAMP, 10' DWELL	0844	MAX8611VETM+	-65C TO 150C	1000 CYS	77	0	SVZ4EA6B7Q5
TEMP CYCLE, 5' RAMP, 10' DWELL	0844	MAX8611VETM+	-65C TO 150C	1000 CYS	77	0	SVZ4EA6B7Q6
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8676EWJ+T	-40C TO +125C	1000 CYS	77	0	SHWZBQ001B
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8676EWJ+T	-40C TO +125C	1000 CYS	77	0	SHWZBQ001C
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8676EWJ+T	-40C TO +125C	1000 CYS	73	0	SHWZBQ001D
TEMP CYCLE, 5' RAMP, 5' DWELL	N/A	MAX8697SEWQ+T	-20C to +125C	700 CYS	76	0	SKQYBY001A
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX4909EWC+T	-65C TO 150C	500 CYS	77	0	SK41A4002E
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX4909EWC+T	-65C TO 150C	500 CYS	77	0	SK41A4002GA

Total: 0

FAILURE RATE: MTTF (YRS): 139515 FITS: 0.8