



10/8/10

**RELIABILITY MONITOR REPORT
FOR**

San Antonio 0.4 μ m Silicon Gate CMOS (S45)

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:

DS4560	MAX14545ETA+	MAX14550AEET	MAX15050EWE	MAX16822AAS
MAX16917BGE	MAX16917BGE+	MAX1697DGE	MAX17017GTM	MAX17020ETJ+
MAX17030GTL+	MAX17079GTL+	MAX17088ETX+	MAX17094ETM	MAX17100ETM
MAX17114ETM	MAX17115ETJ+	MAX17410GTM	MAX31190	MAX5134AETE
MAX8791BGTA	MAX8893CEWV	MAX8899EWZ+	MAX8922LETB+	MQX17094ETM
PE31Z				

The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 159300 QUANTITY: 1294 FAILS: 0 FITS: 0.7

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 10/1/2009 and 9/30/2010 .

Process Information:

Process Description: San Antonio 0.4µm Silicon Gate CMOS (S45)

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	0846	MAX16917BGEE+	135C	1000 HRS	45	0	TSEYAQ001DW
HIGH TEMP OP LIFE	0846	MAX5134AETE+	135C	1000 HRS	45	0	TEMZCQ002Q5
HIGH TEMP OP LIFE	0846	MAX5134AETE+	135C	1000 HRS	45	0	TEMZCQ002Q6
HIGH TEMP OP LIFE	0903	MAX16917BGEE+	135C	500 HRS	45	0	TSEYAQ001BB
HIGH TEMP OP LIFE	0917	MAX17020ETJ+	135C	1000 HRS	32	0	TKCZF2066FA
HIGH TEMP OP LIFE	0917	MAX17020ETJ+	135C	1000 HRS	48	0	TKCZF2066FB
HIGH TEMP OP LIFE	0921	MAX17017GTM+	135C	1000 HRS	75	0	EGEZLZ027I
HIGH TEMP OP LIFE	0924	MAX17017GTM+	135C	1000 HRS	75	0	EGEZLZ027C
HIGH TEMP OP LIFE	0924	MAX17017GTM+	135C	1000 HRS	76	0	EGEZLZ027L
HIGH TEMP OP LIFE	0929	MAX17079GTL+	135C	1000 HRS	48	0	TMFZCA041CB
HIGH TEMP OP LIFE	0929	MAX17079GTL+	135C	500 HRS	48	0	TMFZCA037EB
HIGH TEMP OP LIFE	0929	MAX17079GTL+	135C	1000 HRS	48	0	TMFZCA039FB
HIGH TEMP OP LIFE	0934	MAX16822AASA+	135C	500 HRS	71	0	TNCZBZ002IA
HIGH TEMP OP LIFE	0934	MAX16822AASA+	135C	1000 HRS	77	0	TNCZBZ003JA
HIGH TEMP OP LIFE	0936	MAX17088ETX+	135C	1000 HRS	80	0	TRIZEZ001AA
HIGH TEMP OP LIFE	0937	MAX15050EWE+	135C	192 HRS	50	0	TYCZCQ001AQ
HIGH TEMP OP LIFE	0937	MAX15050EWE+	135C	192 HRS	50	0	TYCZCQ001BQ
HIGH TEMP OP LIFE	0940	MAX14550AEETB+	135C	281 HRS	48	0	TYDYAQ002KQ

HIGH TEMP OP LIFE	0941	MAX8791BGTA+	135C	192	HRS	50	0	TV63AQ001DQ
HIGH TEMP OP LIFE	0941	MAX14545ETA+	135C	281	HRS	50	0	TXCYBQ001AQ
HIGH TEMP OP LIFE	0943	MAX31190	125C, 3.6 VOLTS	192	HRS	45	0	WJ051035AB-NPI
HIGH TEMP OP LIFE	0950	MAX8893CEWV+T	135C	281	HRS	50	0	TXGZAQ001DQ
HIGH TEMP OP LIFE	1006	PE31Z	135C, 7.0V (PSA) & 28.0V (PSD)	192	HRS	48	0	TKFYBQ003DQ
HIGH TEMP OP LIFE	1018	DS4560	100C, 13.2V (PSB) & 5.5V (PSA)	192	HRS	45	0	WD054757AB-NPI
Total:							0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
STORAGE LIFE	0904	MAX17410GTM+	150C	1000 HRS	79	0	TTSZBQ001B	
STORAGE LIFE	0904	MAX17410GTM+	150C	1000 HRS	80	0	TTSZBQ001BB	
STORAGE LIFE	0921	MAX17017GTM+	150C	500 HRS	80	0	EGEZLZ027I	
STORAGE LIFE	0924	MAX17017GTM+	150C	1000 HRS	80	0	EGEZLZ027C	
STORAGE LIFE	0924	MAX17017GTM+	150C	1000 HRS	80	0	EGEZLZ027L	
STORAGE LIFE	0934	MAX16822AASA+	150C	1000 HRS	80	0	TNCZBZ002IA	
STORAGE LIFE	0934	MAX16822AASA+	150C	1000 HRS	80	0	TNCZBZ003JA	
STORAGE LIFE	0936	MAX17088ETX+	150C	1000 HRS	80	0	TRIZEZ001AA	
STORAGE LIFE	1022	MAX17100ETM+C8W	150C	1000 HRS	77	0	TQLZDQ002Q3	
STORAGE LIFE	1023	MAX17100ETM+C8W	150C	1000 HRS	77	0	TQPZDA072Q1	
STORAGE LIFE	1023	MAX17100ETM+C8W	150C	1000 HRS	77	0	TQPZDA072Q2	
STORAGE LIFE	1024	MAX17114ETM+CB2	150C	500 HRS	77	0	TURZE2150A	
STORAGE LIFE	1025	MAX17094ETM+	150C	500 HRS	77	0	TQGZDA043Q2	
STORAGE LIFE	1025	MAX17094ETM+	150C	500 HRS	77	0	TQGZDA043Q3	
STORAGE LIFE	1025	MAX17115ETJ+	150C	500 HRS	77	0	TUAZF2009DB	
Total:							0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 15' RAMP, 15' DWELL		MAX8899EWZ+T	-40C TO +125C	500 CYS	77	0	TXPZBA014CZ
TEMP CYCLE, 5' RAMP, 10' DWELL	0904	MAX17410GTM+	-65C TO 150C	1000 CYS	80	0	TTSZBQ001A
TEMP CYCLE, 5' RAMP, 10' DWELL	0904	MAX17410GTM+	-65C TO 150C	1000 CYS	80	0	TTSZBQ001B
TEMP CYCLE, 5' RAMP, 10' DWELL	0904	MAX17410GTM+	-65C TO 150C	1000 CYS	80	0	TTSZBQ001BB
TEMP CYCLE, 5' RAMP, 10' DWELL	0904	MAX17410GTM+	-65C TO 150C	1000 CYS	78	0	TTSZBQ001C

TEMP CYCLE, 5' RAMP, 10' DWELL	0921	MAX17017GTM+	-65C TO 150C	1000	CYS	80	0	EGEZLZ027I
TEMP CYCLE, 5' RAMP, 10' DWELL	0924	MAX17017GTM+	-65C TO 150C	1000	CYS	80	1	EGEZLZ027C
TEMP CYCLE, 5' RAMP, 10' DWELL	0924	MAX17017GTM+	-65C TO 150C	1000	CYS	80	0	EGEZLZ027L
TEMP CYCLE, 5' RAMP, 10' DWELL	0929	MAX17079GTL+	-65C TO 150C	1000	CYS	78	0	TMFZCA041CB
TEMP CYCLE, 5' RAMP, 10' DWELL	0929	MAX17079GTL+	-65C TO 150C	500	CYS	78	0	TMFZCA037EB
TEMP CYCLE, 5' RAMP, 10' DWELL	0929	MAX17079GTL+	-65C TO 150C	1000	CYS	78	0	TMFZCA039FB
TEMP CYCLE, 5' RAMP, 10' DWELL	0934	MAX16822AASA+	-65C TO 150C	500	CYS	80	0	TNCZBZ002IA
TEMP CYCLE, 5' RAMP, 10' DWELL	0934	MAX16822AASA+	-65C TO 150C	500	CYS	80	0	TNCZBZ003JA
TEMP CYCLE, 5' RAMP, 10' DWELL	0935	MAX17030GTL+	-65C TO 150C	1000	CYS	77	0	TRQZDQ002Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	0935	MAX17030GTL+	-65C TO 150C	1000	CYS	77	0	TRQZDQ002Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	0935	MAX17030GTL+	-65C TO 150C	1000	CYS	77	0	TRQZDQ002DA
TEMP CYCLE, 5' RAMP, 10' DWELL	0936	MAX17088ETX+	-65C TO 150C	500	CYS	80	0	TRIZEZ001AA
TEMP CYCLE, 5' RAMP, 10' DWELL	0939	MAX8922LETB+T	-65C TO 150C	1000	CYS	77	0	TUIYAA004FA
TEMP CYCLE, 5' RAMP, 10' DWELL	0945	MAX8922LETB+T	-65C TO 150C	1000	CYS	75	0	TUIYAQ003DA
TEMP CYCLE, 5' RAMP, 10' DWELL	0945	MAX8922LETB+T	-65C TO 150C	1000	CYS	77	0	TUIYAQ003AB
TEMP CYCLE, 5' RAMP, 10' DWELL	1017	MAX16917DGEE/V+	-65C TO 150C	1000	CYS	77	0	TSEZQA002DA
TEMP CYCLE, 5' RAMP, 10' DWELL	1017	MAX16917DGEE/V+	-65C TO 150C	1000	CYS	77	0	TSEZQA002DB
TEMP CYCLE, 5' RAMP, 10' DWELL	1020	MAX16917DGEE/V+	-65C TO 150C	1000	CYS	77	0	TSEZQA003BC
TEMP CYCLE, 5' RAMP, 10' DWELL	1022	MAX17100ETM+C8W	-65C TO 150C	1000	CYS	77	0	TQLZDQ002Q3
TEMP CYCLE, 5' RAMP, 10' DWELL	1023	MAX16917BGEE/V+	-65C TO 150C	1000	CYS	77	0	TSEYA3006AI
TEMP CYCLE, 5' RAMP, 10' DWELL	1023	MAX17100ETM+C8W	-65C TO 150C	1000	CYS	77	0	TQPZDA072Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	1023	MAX17100ETM+C8W	-65C TO 150C	1000	CYS	77	0	TQPZDA072Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	1025	MAX17094ETM+	-65C TO 150C	500	CYS	77	0	TQGZDA043Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	1025	MQX17094ETM+	-65C TO 150C	500	CYS	77	0	TQGZDA043Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	1025	MAX17094ETM+	-65C TO 150C	500	CYS	77	0	TQGZDA043Q3

Total: 1

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
BIASED MOISTURE	0934	MAX16822AASA+	130C, 85% R.H.	96 HRS	45	0	TNCZBZ0021A
					Total:	0	

FAILURE RATE: **MTTF (YRS): 159300** **QUANTITY: 1294** **FAILS: 0** **FITS: 0.7**