7/28/2009

RELIABILITY MONITOR REPORT
FOR

San Antonio 0.4µm 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:

MAX13362ATL+	MAX14512ETI+	MAX14525ETA+	MAX14526EETI	MAX14527BETA
MAX14527ETA+	MAX14535EEVB	MAX14535EEVB	MAX15021ATI+	MAX15022AT1
MAX15023ETG+	MAX16834ATP+	MAX16917BGEE	MAX16917BGEE	MAX17017GTM
MAX17065ETI+	MAX17079GTL+	MAX17094ETM	MAX17097GTL+	MAX17100ETM
MAX17102ETM	MAX17103ETJ+	MAX17108ETI+	MAX17112ETB+	MAX17114ETM
MAX17115ETJ+	MAX1740IGTJ+	MAX17480GTL+	MAX1829ETL+	MAX4885EETG+
MAX4944ELA+T	MAX4945LELA+	MAX4967EGEE+	MAX4967EQEE+	MAX4981ETA+
MAX4995BAVB	MAX4999ETJ+	MAX5137GTG+	MAX7357EUG+	MAX7359ETG+
MAX8606ETD+T	MAX8670AETL+	MAX8697SERQ+	MAX8697SEWQ	MAX8815AETB+
MAX8819AETI+	MAX8822ETE+	MAX8844YETD	MAX8845YETC	MAX8845ZETC+
MAX8856ETD+	MAX8903AETI+	MAX8916ITL+	MAX9532AUB+	MAX9591ETU
MAX9650AUA+	MAX9651AUA+	MAX9668ETP+	MAX9669ETI+	MAX9697ATI+
MAX9736BETJ+	MAX9737ETG+	MAX9791AETI+	MAX9879ETJ+	MAX9895AETL+

The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 106114 QUANTITY: 3520 FAILS: 1 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 7/1/2008 and 6/30/2009 .

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		MAX17115ETJ+	135C	192 HRS	50	0	TUAZDQ001AQ
HIGH TEMP OP LIFE	0738	MAX8822ETE+	135C	192 HRS	55	0	TFKZBQ001CQ
HIGH TEMP OP LIFE	0748	MAX15021ATI+	135C	192 HRS	48	0	TLWZAQ001HQ
HIGH TEMP OP LIFE	0748	MAX15022AT1	135C	192 HRS	50	0	TLWYAQ001HQ
HIGH TEMP OP LIFE	0805	MAX4999ETJ+	135C	192 HRS	48	0	TMDZAQ001EQ
HIGH TEMP OP LIFE	0805	MAX9591ETU	135C	192 HRS	55	0	TNLZAQ001AQ
HIGH TEMP OP LIFE	0811	MAX4981ETA+	135C	192 HRS	48	0	TKBWBQ001EQ
HIGH TEMP OP LIFE	0812	MAX8815AETB+	135C	192 HRS	49	0	TKPZBQ001EQ
HIGH TEMP OP LIFE	0813	MAX14512ETI+	135C	192 HRS	48	0	TLXZBQ001CQ
HIGH TEMP OP LIFE	0813	MAX15023ETG+	135C	192 HRS	55	0	TFWZBQ001EQ
HIGH TEMP OP LIFE	0813	MAX9791AETI+	135C	192 HRS	50	0	TNPZBQ001AQ
HIGH TEMP OP LIFE	0814	MAX17017GTM+	135C	1000 HRS	71	0	TGEZIZ001PA
HIGH TEMP OP LIFE	0816	MAX1740IGTJ+	135C	192 HRS	50	0	TDCZGQ002BQ

HIGH TEMP OP LIFE	0817	MAX17017GTM+	135C	1000	HRS	75	0	TGEZIA002A
HIGH TEMP OP LIFE	0819	MAX4967EQEE+	135C	324	HRS	48	0	TKWZBQ001#
HIGH TEMP OP LIFE	0822	MAX8856ETD+	135C	192	HRS	48	0	TYA1AA004AQ
HIGH TEMP OP LIFE	0823	MAX16834ATP+	135C	192	HRS	48	0	TNOZBQ001BQ
HIGH TEMP OP LIFE	0823	MAX7357EUG+	135C	192	HRS	48	0	TMTYBA004BQ
HIGH TEMP OP LIFE	0824	MAX8819AETI+	135C	192	HRS	48	0	TLIZEQ001AQ
HIGH TEMP OP LIFE	0825	MAX8606ETD+T	135C	192	HRS	48	0	TYA0DQ003AQ
HIGH TEMP OP LIFE	0825	MAX14525ETA+	135C	192	HRS	48	0	TQSZAQ001EQ
HIGH TEMP OP LIFE	0826	MAX9737ETG+	135C	192	HRS	48	0	TQXZAQ001EQ
HIGH TEMP OP LIFE	0826	MAX9650AUA+	135C	192	HRS	55	0	TNZZAQ001CQ
HIGH TEMP OP LIFE	0826	MAX9651AUA+	135C	192	HRS	48	0	TOLZAQ001DQ
HIGH TEMP OP LIFE	0827	MAX17065ETI+	135C	192	HRS	48	0	TJEZEQ001EQ
HIGH TEMP OP LIFE	0827	MAX9669ETI+	135C	500	HRS	80	0	TRMZAQ001A#
HIGH TEMP OP LIFE	0828	MAX5137GTG+	135C	192	HRS	48	0	TEMYBQ001BQ
HIGH TEMP OP LIFE	0829	MAX4967EGEE+	135C	333	HRS	3	0	TKWZBQ003B
HIGH TEMP OP LIFE	0829	MAX4885EETG+	135C	192	HRS	48	0	TPEZAQ002FQ
HIGH TEMP OP LIFE	0830	MAX8670AETL+	135C	192	HRS	47	1	TU44DQ003HQ
HIGH TEMP OP LIFE	0830	MAX1829ETL+W	135C	1000	HRS	48	0	TQ20H2334A
HIGH TEMP OP LIFE	0830	MAX1829ETL+W	135C	1000	HRS	48	0	TQ20H2334C
HIGH TEMP OP LIFE	0831	MAX14527ETA+T	135C	192	HRS	48	0	TSIZAQ001CQ
HIGH TEMP OP LIFE	0831	MAX4995BAVB+	135C	192	HRS	48	0	TJUXCA007BQ
HIGH TEMP OP LIFE	0833	MAX17112ETB+T	135C	192	HRS	48	0	TSMZCQ001AM
HIGH TEMP OP LIFE	0833	MAX7359ETG+	135C	192	HRS	48	0	THMZCQ003IQ
HIGH TEMP OP LIFE	0839	MAX9895AETL+	135C	192	HRS	48	0	TTPZAQ001AQ
HIGH TEMP OP LIFE	0840	MAX8916ITL+	135C	192	HRS	44	0	TSHZDQ003BQ
HIGH TEMP OP LIFE	0840	MAX17094ETM+	135C	192	HRS	24	0	TQGZDQ001FQ
HIGH TEMP OP LIFE	0842	MAX17108ETI+	135C	192	HRS	48	0	TRXZBQ001AQ
HIGH TEMP OP LIFE	0842	MAX9736BETJ+	135C	138	HRS	40	0	TFUYCA014C#
HIGH TEMP OP LIFE	0844	MAX17112ETB+T	135C	192	HRS	50	0	TSMZDQ002DQ
HIGH TEMP OP LIFE	0844	MAX4944ELA+T	135C	1000	HRS	80	0	TY91E2011F
HIGH TEMP OP LIFE	0844	MAX4945LELA+T	135C	192	HRS	49	0	TY96EA004AQ
HIGH TEMP OP LIFE	0844	MAX17112ETB+T	135C	192	HRS	48	0	TSMZDQ002Q
HIGH TEMP OP LIFE	0844	MAX4944ELA+T	135C	500	HRS	80	0	TY91E2011H
HIGH TEMP OP LIFE	0844	MAX14527BETA+	135C	192	HRS	48	0	TSIZAQ001A#
HIGH TEMP OP LIFE	0845	MAX14535EEVB+T	135C	192	HRS	50	0	TUEZAQ001BQ
HIGH TEMP OP LIFE	0845	MAX14535EEVB+	135C	500	HRS	47	0	TUEZAQ001B#
HIGH TEMP OP LIFE	0846	MAX9532AUB+	135C	192	HRS	50	0	TRFZBQ002EQ
HIGH TEMP OP LIFE	0847	MAX17103ETJ+	135C	192	HRS	50	0	TRVZCQ001BI

HIGH TEMP OP LIFE	0850	MAX17480GTL+	135C	192	HRS	47	0	TUVZAQ001BQ
HIGH TEMP OP LIFE	0851	MAX8903AETI+	135C	100	HRS	55	0	TJJZHQ001A4
HIGH TEMP OP LIFE	0851	MAX9669ETI+	135C	1000	HRS	77	0	TRMZBQ001BC
HIGH TEMP OP LIFE	0902	MAX8845ZETC+T	135C	192	HRS	50	0	TRHZBQ001JQ
HIGH TEMP OP LIFE	0903	MAX8844YETD+T	135C	192	HRS	48	0	TRGYEA005DQ
HIGH TEMP OP LIFE	0903	MAX16917BGEE/V+	135C	192	HRS	48	0	TSEYAQ001BQ
HIGH TEMP OP LIFE	0905	MAX8845YETC+	135C	192	HRS	48	0	TRHYCQ001LQ
HIGH TEMP OP LIFE	0905	MAX9879ETJ+	135C	192	HRS	50	0	TSJZCQ002AQ
HIGH TEMP OP LIFE	0906	MAX17114ETM+	135C	192	HRS	48	0	TURZCQ001A
HIGH TEMP OP LIFE	0907	MAX9697ATI+	135C	192	HRS	47	0	TSZZAQ001AQ
HIGH TEMP OP LIFE	0907	MAX9668ETP+	135C	1000	HRS	79	0	TRMYBQ001J
HIGH TEMP OP LIFE	0908	MAX17097GTL+	135C	500	HRS	45	0	TMFZCA021Q1
HIGH TEMP OP LIFE	0908	MAX17097GTL+	135C	500	HRS	45	0	TMFZCA021Q2
HIGH TEMP OP LIFE	0908	MAX17097GTL+	135C	500	HRS	45	0	TMFZCA021Q3
HIGH TEMP OP LIFE	0909	MAX14526EETI+	135C	192	HRS	48	0	TRTZEA007CQ
HIGH TEMP OP LIFE	0910	MAX17102ETM+	135C	500	HRS	47	0	TQLZCA004Q1
HIGH TEMP OP LIFE	0910	MAX17102ETM+	135C	500	HRS	48	0	TQLZCA004Q2
HIGH TEMP OP LIFE	0912	MAX17100ETM+C8W	135C	500	HRS	45	0	TQPZDA008Q1
HIGH TEMP OP LIFE	0912	MAX17100ETM+C8W	135C	500	HRS	43	0	TQPZDA008Q2
					Total:		**1**	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT		QUANTITY	FAILS	LOT NO.
STORAGE LIFE	0814	MAX17017GTM+	150C	1000	HRS	80	0	TGEZIZ001PA
STORAGE LIFE	0817	MAX17017GTM+	150C	1000	HRS	80	0	TGEZIZ002A
STORAGE LIFE	0818	MAX17017GTM+	150C	1000	HRS	80	0	TGEZIZ001E
STORAGE LIFE	0819	MAX4967EGEE+	150C	500	HRS	45	0	TKWZBQ001#
STORAGE LIFE	0827	MAX9669ETI+	150C	500	HRS	80	0	TRMZAQ991A#
STORAGE LIFE	0827	MAX9669ETI+	150C	880	HRS	80	0	TRMZAQ001A#
STORAGE LIFE	0829	MAX4967EGEE+	150C	500	HRS	45	0	TKWZBQ003B#
STORAGE LIFE	0845	MAX14535EEVB+	150C	500	HRS	80	0	TUEZAQ001B#
STORAGE LIFE	0851	MAX9669ETI+	150C	500	HRS	80	0	TRMZBQ001BC
STORAGE LIFE	0907	MAX9668ETP+	150C	1000	HRS	80	0	TRMYBQ001J
STORAGE LIFE	0908	MAX17079GTL+	150C	1000	HRS	77	0	TMFZCA021Q1
STORAGE LIFE	0908	MAX17079GTL+	150C	1000	HRS	77	0	TMFZCA021Q2
STORAGE LIFE	0908	MAX17079GTL+	150C	1000	HRS	77	0	TMFZCA021Q3
STORAGE LIFE	0910	MAX17102ETM+	150C	1000	HRS	77	0	TQLZCA004Q1
STORAGE LIFE	0910	MAX17102ETM+	150C	1000	HRS	77	0	TQLZCA004Q2

STORAGE LIFE	0910	MAX17102ETM+	150C	500	HRS	77	0	TQLZCA004Q3
STORAGE LIFE	0912	MAX17100ETM+C8W	150C	1000	HRS	77	0	TQPZDA008Q1
STORAGE LIFE	0912	MAX17100ETM+C8W	150C	1000	HRS	77	0	TQPZDA008Q3
STORAGE LIFE	0914	MAX13362ATL+	150C	500	HRS	45	0	TKRZBQ002A#
STORAGE LIFE	N/A	MAX8697SERQ+T	150C	500	HRS	77	0	TKQXC4042AD
STORAGE LIFE	N/A	MAX8697SERQ+T	150C	500	HRS	77	0	TKQXC4042AG
STORAGE LIFE	N/A	MAX8697SERQ+T	150C	500	HRS	77	0	TKQXC4042AH
STORAGE LIFE	N/A	MAX8697SERQ+T	150C	500	HRS	77	0	TKQXCA066AO
					Total:		**0**	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT		QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 5' RAMP, 10' DWELL	0814	MAX17017GTM+	-65C TO 150C	1000	CYS	80	0	TGEZIZ001PA
TEMP CYCLE, 5' RAMP, 10' DWELL	0818	MAX17017GTM+	-65C TO 150C	1000	CYS	80	0	TGEZIZ001E
TEMP CYCLE, 5' RAMP, 10' DWELL	0819	MAX4967EGEE+	-65C TO 150C	497	CYS	80	0	TKWZBQ001#
TEMP CYCLE, 5' RAMP, 10' DWELL	0829	MAX4967EGEE+	-65C TO 150C	500	CYS	80	0	TKWZBQ003B#
TEMP CYCLE, 5' RAMP, 10' DWELL	0830	MAX1829ETL+W	-65C TO 150C	1000	CYS	80	0	TQ20H2334A
TEMP CYCLE, 5' RAMP, 10' DWELL	0830	MAX1829ETL+W	-65C TO 150C	1000	CYS	80	0	TQ20H2336C
TEMP CYCLE, 5' RAMP, 10' DWELL	0842	MAX9736BETJ+	-65C TO 150C	500	CYS	79	0	TFUYCA014C#
TEMP CYCLE, 5' RAMP, 10' DWELL	0844	MAX4944ELA+T	-65C TO 150C	1000	CYS	79	0	TY91E2011F
TEMP CYCLE, 5' RAMP, 10' DWELL	0844	MAX4944ELA+T	-65C TO 150C	1000	CYS	80	0	TY91E2011H
TEMP CYCLE, 5' RAMP, 10' DWELL	0844	MAX14527BETA+	-65C TO 150C	250	CYS	80	0	TSIZAQ001A#
TEMP CYCLE, 5' RAMP, 10' DWELL	0845	MAX14535EEVB+	-65C TO 150C	200	CYS	80	0	TUEZAQ001B#
TEMP CYCLE, 5' RAMP, 10' DWELL	0846	MAX16917BGEE+	-65C TO 150C	1000	CYS	77	0	TSEYAQ001DW
TEMP CYCLE, 5' RAMP, 10' DWELL	0908	MAX17079GTL+	-65C TO 150C	1000	CYS	75	0	TMFZCA021Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	0908	MAX17079GTL+	-65C TO 150C	1000	CYS	77	0	TMFZCA021Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	0908	MAX17079GTL+	-65C TO 150C	1000	CYS	77	0	TMFZCA021Q3
TEMP CYCLE, 5' RAMP, 10' DWELL	0910	MAX17102ETM+	-65C TO 150C	1000	CYS	77	0	TQLZCA004Q3
TEMP CYCLE, 5' RAMP, 10' DWELL	0912	MAX17100ETM+C8W	-65C TO 150C	1000	CYS	77	0	TQPZDA008Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	0912	MAX17100ETM+C8W	-65C TO 150C	1000	CYS	77	0	TQPZDA008Q2

TEMP CYCLE, 5' RAMP, 10' DWELL	0912	MAX17100ETM+C8W	-65C TO 150C	1000	CYS	77	0	TQPZDA008Q3
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8697SEWQ+T	-40C TO +125C	1000	CYS	76	0	TKQXC4033A
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8697SEWQ+T	-40C TO +125C	500	CYS	77	0	TKQXC4009BZ
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8697SERQ+T	-40C TO +125C	500	CYS	77	0	TKQXCA066AE
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX8697SERQ+T	-65C TO 150C	500	CYS	77	0	TKQXCA066AE
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8697SERQ+T	-40C TO +125C	500	CYS	77	0	TKQXCA066AO
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8697SERQ+T	-40C TO +125C	500	CYS	77	0	TKQXCA066AC
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8697SERQ+T	-40C TO +125C	500	CYS	77	0	TKQXCA066AM
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8697SERQ+T	-40C TO +125C	500	CYS	77	0	TKQXCA066AW
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8697SERQ+T	-40C TO +125C	500	CYS	77	0	TKQXCA066AB
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8697SERQ+T	-40C TO +125C	500	CYS	77	0	TKQXCA066AL
TEMP CYCLE, 15' RAMP, 15' DWELL	N/A	MAX8697SERQ+T	-40C TO +125C	500	CYS	77	0	TKQXCA066AV
					Total:		**0**	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT		QUANTITY	FAILS	LOT NO.
BIASED MOISTURE	0818	MAX17017GTM+	130C, 85% R.H.	1000	HRS	26	0	TGEZIZ001E
					Total:		**0**	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT		QUANTITY	FAILS	LOT NO.
MOISTURE SOAK	0910	MAX17102ETM+	85 C/85% R.H.	500	HRS	45	0	TQLZCA004Q1
MOISTURE SOAK	0910	MAX17102ETM+	85 C/85% R.H.	500	HRS	45	0	TQLZCA004Q2
MOISTURE SOAK	0912	MAX17100ETM+C8W	85 C/85% R.H.	500	HRS	45	0	TQPZDA008Q1
					Total:		**0**	

FAILURE RATE: MTTF (YRS): 106114 QUANTITY: 3520 FAILS: 1 FITS: 1.1