



4/8/2009

**RELIABILITY MONITOR REPORT
FOR**

SVL SiGe HBT 0.35 μ m 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:

805-MP25-2B+A	806-MP25-2A+A	806-MP25-2B+	806-MP25-2B+A	MAX2112ETI+
MAX2117CTI+	MAX2141ETH+	MAX2141ETH+	MAX2163ETL+	MAX2170ETL+
MAX2524ETH+	MAX2547ELM	MAX2548ELM+	MAX2598QELB	MAX2598QLEB
MAX2830ETM+	MAX2831ETM+	MAX2837ETM+	MAX3540OULM	MAX3541ELM#
MAX3580ETJ+	MAX3624UTJ+	MAX3678UTN+	MAX3741ELM#	MAXQ2593P1AF
MAXQ2593Y7P1	MAXQ2593Y7P1	MAXQ2593Y7PI	MAXQ2597Y7P1	

The calculated failure rate for devices using this process is:

FAILURE RATE: **MTTF (YRS): 213311** **FITS: 0.5**

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 7/1/2007 and 6/30/2008 .

Process Information:

Process Description: SVL SiGe HBT 0.35µm CMOS

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	0706	MAX3580ETJ+	135C	500 HRS	48	0	SE0Q4011A#
HIGH TEMP OP LIFE	0706	MAX3580ETJ+	135C	1000 HRS	48	0	SE0Q4011A#
HIGH TEMP OP LIFE	0713	MAX2837ETM+	135C	192 HRS	48	0	SY03F3007BQ
HIGH TEMP OP LIFE	0716	MAX2112ETI+	135C	192 HRS	48	0	SY20F3014CQ
HIGH TEMP OP LIFE	0718	MAX2830ETM+	135C	500 HRS	77	0	STB1S3070C
HIGH TEMP OP LIFE	0719	MAX2170ETL+	135C	500 HRS	48	0	SO00I3042C#
HIGH TEMP OP LIFE	0719	MAX2170ETL+	135C	1000 HRS	48	0	SO00I3024C#
HIGH TEMP OP LIFE	0723	MAX2117CTI+	135C	192 HRS	48	0	SY20G3014QA
HIGH TEMP OP LIFE	0725	MAX3624UTJ+	135C	192 HRS	48	0	SCFZDZ004BQ
HIGH TEMP OP LIFE	0727	MAX2598QELB+	135C	1000 HRS	45	0	SYV3BZ016QA
HIGH TEMP OP LIFE	0727	MAX2598QELB+	135C	1000 HRS	45	0	SYV3BZ016QB
HIGH TEMP OP LIFE	0727	MAX2598QELB+	135C	1000 HRS	44	0	SYV3BZ016QC
HIGH TEMP OP LIFE	0729	MAX2548ELM+	135C	192 HRS	48	0	SWC8GZ027FQ
HIGH TEMP OP LIFE	0731	MAX2163ETL+	135C	192 HRS	48	0	SGRWAZ003AQ
HIGH TEMP OP LIFE	0732	MAX2141ETH+	135C	500 HRS	140	0	SGWYB3114A#
HIGH TEMP OP LIFE	0732	MAX2141ETH+	135C	1000 HRS	140	0	SGWYB3114A#
HIGH TEMP OP LIFE	0734	MAX2547ELM	135C	192 HRS	26	0	SWC7L3027FQ
HIGH TEMP OP LIFE	0734	MAX2547ELM	135C	192 HRS	42	0	SWC7L3027CQ
HIGH TEMP OP LIFE	0741	MAX3540OULM#G42	135C	192 HRS	48	0	SPTCDZ004EQ

HIGH TEMP OP LIFE	0742	MAX2141ETH+	135C	500	HRS	78	0	STX27Z072DA
HIGH TEMP OP LIFE	0749	MAX2831ETM+	135C	240	HRS	77	0	STB2S2203F
HIGH TEMP OP LIFE	0749	MAX2831ETM+	135C	500	HRS	77	0	STB2S2203A
HIGH TEMP OP LIFE	0751	MAX2141ETH+	135C	192	HRS	77	0	STX27Z072K
HIGH TEMP OP LIFE	0751	MAX2141ETH+	135C	524	HRS	77	0	STX27Z072K
HIGH TEMP OP LIFE	0751	MAX2141ETH+	135C	1000	HRS	78	0	SGWYB3114WX
HIGH TEMP OP LIFE	0751	MAX2141ETH+C7N	135C	500	HRS	78	0	SGWYB3114EX
HIGH TEMP OP LIFE	0751	MAX2141ETH+	135C	1000	HRS	78	0	SGWYB3114EX
HIGH TEMP OP LIFE	0802	MAX2141ETH+	135C	500	HRS	78	0	STX27Z074H
HIGH TEMP OP LIFE	0802	MAX2141ETH+	135C	1000	HRS	78	0	STX27Z074H
HIGH TEMP OP LIFE	0803	MAX2524ETH+	135C	192	HRS	48	0	SGXXA3004AQ
HIGH TEMP OP LIFE	0813	MAX3678UTN+	135C	192	HRS	50	0	SZH0MZ001EQ
HIGH TEMP OP LIFE	0813	MAX3678UTN+	135C	192	HRS	78	0	SZH0MZ001ED
Total:							0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
STORAGE LIFE	071	MAX2170ETL+	150C	1000	HRS	80	0	SO00I3024C#
STORAGE LIFE	0703	MAXQ2597Y7P1AFELB+	150C	500	HRS	45	0	SYV7A2001QB
STORAGE LIFE	0703	MAXQ2593Y7P1AFELB+	150C	1000	HRS	45	0	SYV7A2001QB
STORAGE LIFE	0706	MAX3580ETJ+	150C	1000	HRS	80	0	SE0Q4011A#
STORAGE LIFE	0718	MAX2830ETM+	150C	1000	HRS	80	0	STB1S3070C
STORAGE LIFE	0719	MAX2170ETL+	150C	500	HRS	80	0	SO00I3024C#
STORAGE LIFE	0727	MAX2598QELB+	150C	1000	HRS	44	0	SYV3BZ016QA
STORAGE LIFE	0727	MAX2598QELB+	150C	1000	HRS	45	0	SYV3BZ016QB
STORAGE LIFE	0727	MAX2598QELB+	150C	1000	HRS	45	0	SYV3BZ016QC
STORAGE LIFE	0732	MAX2141ETH+	150C	1000	HRS	80	0	SGWYB3114A#
STORAGE LIFE	0751	MAX2141ETH+	150C	1000	HRS	80	0	SGWYB3114E
Total:							0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
TEMP CYCLE, 5' RAMP, 10' DWELL	0703	MAXQ2593Y7P1AFELB+	-65C TO 150C	2000	CYS	77	0	SYV7A2001QA
TEMP CYCLE, 5' RAMP, 10' DWELL	0703	MAXQ2593Y7P1AFELB+	-65C TO 150C	3000	CYS	77	0	SYV7A2001QA
TEMP CYCLE, 5' RAMP, 10' DWELL	0703	MAXQ2593Y7P1AFELB+	-65C TO 150C	2000	CYS	77	0	SYV7A2001QB
TEMP CYCLE, 5' RAMP, 10' DWELL	0703	MAXQ2593Y7P1AFELB+	-65C TO 150C	3000	CYS	77	0	SYV7A2001QB
TEMP CYCLE, 5' RAMP, 10' DWELL	0703	MAXQ2593Y7P1QFELB+	-65C TO 150C	2000	CYS	77	0	SYV7A2001QC
TEMP CYCLE, 5' RAMP, 10' DWELL	0703	MAXQ2593Y7P1AFELB+	-65C TO 150C	3000	CYS	77	0	SYV7A2001QC

TEMP CYCLE, 5' RAMP, 10' DWELL	0706	MAX3580ETJ+	-65C TO 150C	1000	CYS	80	0	SE0Q4011A#
TEMP CYCLE, 5' RAMP, 10' DWELL	0718	MAX2830ETM+	-65C TO 150C	1000	CYS	80	0	STB1S3070C
TEMP CYCLE, 5' RAMP, 10' DWELL	0719	MAX2170ETL+	-65C TO 150C	1000	CYS	79	0	SO00I3024C#
TEMP CYCLE, 5' RAMP, 10' DWELL	0727	MAX2598QELB+	-65C TO 150C	1000	CYS	77	0	SYV3BZ016QA
TEMP CYCLE, 5' RAMP, 10' DWELL	0727	MAX2598QELB+	-65C TO 150C	1000	CYS	77	0	SYV3BZ016QC
TEMP CYCLE, 5' RAMP, 10' DWELL	0735	806-MP25-2B+	-65C TO 150C	1000	CYS	77	0	SFRZAZ004D
TEMP CYCLE, 5' RAMP, 10' DWELL	0735	MAX3541ELM#G42	-65C TO 150C	500	CYS	77	0	SPTBDZ006AE
TEMP CYCLE, 5' RAMP, 10' DWELL	0735	MAX3741ELM#G42	-65C TO 150C	1000	CYS	77	0	SPTBDZ006AE
TEMP CYCLE, 5' RAMP, 10' DWELL	0741	MAX3741ELM#G42	-65C TO 150C	500	CYS	77	0	SPTBDZ006CB
TEMP CYCLE, 5' RAMP, 10' DWELL	0745	806-MP25-2B+A5	-65C TO 150C	1000	CYS	77	0	SFRZAZ004OA
TEMP CYCLE, 5' RAMP, 10' DWELL	0749	MAX3541ELM#G42	-65C TO 150C	500	CYS	77	0	SPTBD3004QC
TEMP CYCLE, 5' RAMP, 10' DWELL	0751	MAX2141ETH+	-65C TO 150C	1000	CYS	80	0	SGWYB3114E
TEMP CYCLE, 5' RAMP, 10' DWELL	0751	806-MP25-2A+A5	-65C TO 150C	1000	CYS	77	0	SFRZA3002BA
Total:							0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
BIASED MOISTURE	0706	MAX3580ETJ+	85 C/85% R.H.	1000 HRS	48	0	SE0Q4011A#
BIASED MOISTURE	0751	MAX2141ETH+	130C, 85% R.H.	96 HRS	48	0	SGWYB3114E
Total:							0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
MOISTURE SOAK	0703	MAXQ2593Y7P1AFELB+	85 C/85% R.H.	500 HRS	45	0	SYV7A2001QA
MOISTURE SOAK	0703	MAXQ2593P1AFELB+	85 C/85% R.H.	1000 HRS	45	0	SYV7A2001QA
MOISTURE SOAK	0703	MAXQ2593Y7P1AFELB+	85 C/85% R.H.	500 HRS	45	0	SYV7A2001QB
MOISTURE SOAK	0703	MAXQ2593P1AFELB+	85 C/85% R.H.	1000 HRS	45	0	SYV7A2001QB
MOISTURE SOAK	0703	MAXQ2593Y7P1AFELB+	85 C/85% R.H.	500 HRS	44	0	SYV7A2001QC
MOISTURE SOAK	0703	MAXQ2593P1AFELB+	85 C/85% R.H.	1000 HRS	44	0	SYV7A2001QC
MOISTURE SOAK	0706	MAX3580ETJ+	130C, 85% R.H.	96 HRS	80	0	SE0Q4011A#
MOISTURE SOAK	0719	MAX2170ETL+	130C, 85% R.H.	100 HRS	80	0	SO00I3024C#
MOISTURE SOAK	0732	MAX2141ETH+	130C, 85% R.H.	100 HRS	80	0	SGWYB3114A#
Total:							0

FAILURE RATE:

MTTF (YRS): 213311

FITS: 0.5