



5/9/2009

**RELIABILITY MONITOR REPORT  
FOR**

**X3 SiGe HBT 0.35 $\mu$ m BiCMOS**

**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:

806-MP25-2A+A	806-MP25-2B+	806-MP25-2B+A	MAX2141ETH+	MAX2163ETL+
MAX2524ETH+	MAX2547ELM	MAX2547ELM+	MAX2830ETM+	MAX2831ETM+
MAX2839ETN+	MAX3540OULM	MAX3678UTN+	MAX3741ELM#	MAXQ2593Y7P1

The calculated failure rate for devices using this process is:

**FAILURE RATE:**                      **MTTF (YRS): 93271**                      **FITS: 1.2**

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 1/1/2008 and 12/31/2008.

**Process Information:**

Process Description:                      X3 SiGe HBT 0.35µm BiCMOS

**OPERATING LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	0718	MAX2830ETM+	135C	1000 HRS	77	0	STB1S3070C
HIGH TEMP OP LIFE	0731	MAX2163ETL+	135C	192 HRS	48	0	SGRWAZ003AQ
HIGH TEMP OP LIFE	0734	MAX2547ELM	135C	192 HRS	26	0	SWC7L3027FQ
HIGH TEMP OP LIFE	0741	MAX3540OULM#G42	135C	192 HRS	48	0	SPTCDZ004EQ
HIGH TEMP OP LIFE	0749	MAX2831ETM+	135C	240 HRS	77	0	STB2S2203F
HIGH TEMP OP LIFE	0749	MAX2831ETM+	135C	1000 HRS	77	0	STB2S2203A
HIGH TEMP OP LIFE	0751	MAX2141ETH+	135C	1000 HRS	78	0	SGWYB3114WX
HIGH TEMP OP LIFE	0751	MAX2141ETH+	135C	1000 HRS	78	0	SGWYB3114EX
HIGH TEMP OP LIFE	0802	MAX2141ETH+	135C	1000 HRS	78	0	STX27Z074H
HIGH TEMP OP LIFE	0802	MAX2839ETN+	135C	192 HRS	48	0	SESZD3006EQ
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
HIGH TEMP OP LIFE	0814	MAX2831ETM+	135C	1000 HRS	76	0	STB2S3126DX
HIGH TEMP OP LIFE	0830	MAX2547ELM+	135C	192 HRS	47	0	SWC7NZ034AQ
<b>Total:</b>						<b>0</b>	

**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	0718	MAX2830ETM+	150C	1000 HRS	80	0	STB1S3070C
STORAGE LIFE	0751	MAX2141ETH+	150C	1000 HRS	80	0	SGWYB3114E

**Total: 0**

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**TEMPERATURE CYCLE**

<b>DESCRIPTION</b>	<b>DATE CODE</b>	<b>TEST VEHICLE</b>	<b>CONDITION</b>	<b>READPOINT</b>	<b>QUANTITY</b>	<b>FAILS</b>	<b>LOT NO.</b>
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	3000 CYS	77	0	SYV7A2001QB
TEMP CYCLE, 5' RAMP, 10' DWELL	0703	MAXQ2593Y7P1AFELB+	-65C TO 150C	3000 CYS	77	0	SYV7A2001QC
TEMP CYCLE, 5' RAMP, 10' DWELL	0718	MAX2830ETM+	-65C TO 150C	1000 CYS	80	0	STB1S3070C
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	MAX3741ELM#G42	-65C TO 150C	1000 CYS	77	0	SPTBDZ006AE
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	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**

**FAILURE RATE: MTTF (YRS): 93271 FITS: 1.2**