



5/9/2009

**RELIABILITY MONITOR REPORT
FOR**

Dallas 0.8 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:

DS1230	DS1232	DS1302	DS1814	DS1818
DS1834	DS1844	DS2434	DS75	MAX1792EUA18
MAX1802EHJ+	MAX1968	MAX4364ESA+	MAX6708AKA-T	MAX6708SKA-T
MAX6710EUT	MAX6710EUT+	MAX9018BEKA	MAX9060EUK+	MAX9065EUK+
MAX9711ETC	MAX9711ETC+(

The calculated failure rate for devices using this process is:

FAILURE RATE: **MTTF (YRS): 63854** **FITS: 1.8**

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

Process Information:

Process Description: Dallas 0.8µm Silicon Gate CMOS

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	0628	DS1232	125C, 5.5 VOLTS	1000 HRS	77	0	QD639652AB-NPI
HIGH TEMP OP LIFE	0729	MAX1968	135C	1000 HRS	45	0	D7U4EQ002Q3
HIGH TEMP OP LIFE	0732	MAX9018BEKA+	135C	1000 HRS	32	0	DER5NA010C#
HIGH TEMP OP LIFE	0732	MAX9018BEKA+	135C	1000 HRS	48	0	DER5BA010C#
VISUAL INSPECTION	0742	DS2434	WHISKERS < 50uM		77	0	ZU723402AB
HIGH TEMP OP LIFE	0742	DS2434	125C, 6.4 VOLTS	1000 HRS	77	0	ZU723402AB
VISUAL INSPECTION	0742	DS2434	WHISKERS < 50uM		77	0	ZU723402AC
HIGH TEMP OP LIFE	0742	DS2434	125C, 6.4 VOLTS	1000 HRS	77	0	ZU723402AC
VISUAL INSPECTION	0742	DS2434	WHISKERS < 50uM		77	0	ZU723402AD
HIGH TEMP OP LIFE	0742	DS2434	125C, 6.4 VOLTS	1000 HRS	77	0	ZU723402AD
HIGH TEMP OP LIFE	0742	DS1834	125C, 5.5 VOLTS	1000 HRS	77	0	VJ806167AFB
HIGH TEMP OP LIFE	0749	MAX4364ESA+	135C	408 HRS	45	1	DD50EQ002L#
HIGH TEMP OP LIFE	0750	DS1302	125C, 5.5 VOLTS	1000 HRS	80	0	VJ801082ABA
HIGH TEMP OP LIFE	0751	DS75	125C, 5.5 VOLTS	1000 HRS	77	0	VJ754398AEG
HIGH TEMP OP LIFE	0805	MAX9065EUK+	135C	192 HRS	48	0	DKZUBA002CQ

HIGH TEMP OP LIFE	0806	MAX9060EUK+	135C	192 HRS	48	0	DKZZBQ002BQ
HIGH TEMP OP LIFE	0808	DS1844	125C, 5.5 VOLTS	1000 HRS	54	0	ZK719430ABA
HIGH TEMP OP LIFE	0808	DS1844	125C, 5.5 VOLTS	1000 HRS	54	0	ZK719430ACA
HIGH TEMP OP LIFE	0808	DS1844	125C, 5.5 VOLTS	1000 HRS	54	0	ZK719430ADA
HIGH TEMP OP LIFE	0811	MAX6710EUT+	135C	1000 HRS	48	0	D6O2DA007Q1
HIGH TEMP OP LIFE	0811	MAX6710EUT	135C	1000 HRS	50	0	D6O2DA007Q2
HIGH TEMP OP LIFE	0811	MAX6710EUT+	135C	1000 HRS	49	0	D6O2DA007Q3
HIGH TEMP OP LIFE	0818	MAX1792EUA18+	135C	138 HRS	79	0	DOKBEA010I#
Total:						1	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	0628	DS1232	150C	1000 HRS	75	0	QD639652AB-NPI
STORAGE LIFE	0732	MAX9018BEKA+	150C	500 HRS	45	0	DER5BA010C#
VISUAL INSPECTION	0742	DS2434	WHISKERS < 50uM		77	0	ZU723402AB
STORAGE LIFE	0742	DS2434	150C	1000 HRS	77	0	ZU723402AB
VISUAL INSPECTION	0742	DS2434	WHISKERS < 50uM		77	0	ZU723402AC
STORAGE LIFE	0742	DS2434	150C	1000 HRS	77	0	ZU723402AC
VISUAL INSPECTION	0742	DS2434	WHISKERS < 50uM		77	0	ZU723402AD
STORAGE LIFE	0742	DS2434	150C	1000 HRS	77	0	ZU723402AD
STORAGE LIFE	0742	DS1834	150C	1000 HRS	76	0	VJ806167AFB
STORAGE LIFE	0744	DS1818	150C	1000 HRS	77	0	VJ753408AFB
STORAGE LIFE	0750	DS1302	150C	1000 HRS	77	0	VJ801082ABA
STORAGE LIFE	0751	DS75	150C	1000 HRS	77	0	VJ754398AEG
STORAGE LIFE	0808	DS1844	150C	1000 HRS	77	0	ZK719430ABA
STORAGE LIFE	0808	DS1844	150C	1000 HRS	77	0	ZK719430ACA
STORAGE LIFE	0808	DS1844	150C	1000 HRS	77	0	ZK719430ADA
STORAGE LIFE	0810	DS1814	150C	1000 HRS	75	0	ZQ649015ARB
STORAGE LIFE	0810	DS1814	150C	1000 HRS	72	0	ZQ649015ASB
STORAGE LIFE	0811	MAX6710EUT+	150C	500 HRS	80	0	D6O2DA007Q1
STORAGE LIFE	0811	MAX6710EUT+	150C	1000 HRS	80	0	D6O2DA007Q2
STORAGE LIFE	0811	MAX6710EUT+	150C	1000 HRS	80	0	D6O2DA007Q3
STORAGE LIFE	0818	MAX1792EUA18+	150C	500 HRS	45	0	DOKBEA010I#
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
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TEMP CYCLE, 5' RAMP, 10' DWELL	0536	MAX9711ETC	-65C TO 150C	1000	CYS	989	0	DBI0DQ003E
TEMP CYCLE, 5' RAMP, 10' DWELL	0628	DS1232	-55C TO 125C	1000	CYS	77	0	QD639652AB-NPI
TEMP CYCLE, 5' RAMP, 10' DWELL	0732	MAX9018BEKA+	-65C TO 150C	500	CYS	80	0	DER5BA010C#
TEMP CYCLE, 5' RAMP, 10' DWELL	0741	MAX1802EHJ+	-65C TO 150C	1000	CYS	13	0	D66AC3008A#
VISUAL INSPECTION	0742	DS2434	WHISKERS < 50uM			77	0	ZU723402AB
TEMP CYCLE, 5' RAMP, 10' DWELL	0742	DS2434	-55C TO 125C	1000	CYS	77	0	ZU723402AB
VISUAL INSPECTION	0742	DS2434	WHISKERS < 50uM			77	0	ZU723402AC
TEMP CYCLE, 5' RAMP, 10' DWELL	0742	DS2434	-55C TO 125C	1000	CYS	77	0	ZU723402AC
VISUAL INSPECTION	0742	DS2434	WHISKERS < 50uM			77	0	ZU723402AD
TEMP CYCLE, 5' RAMP, 10' DWELL	0742	DS2434	-55C TO 125C	1000	CYS	77	0	ZU723402AD
TEMP CYCLE, 5' RAMP, 10' DWELL	0742	DS1834	-55C TO 125C	1000	CYS	77	0	VJ806167AFB
TEMP CYCLE, 5' RAMP, 10' DWELL	0742	MAX9711ETC+(AACB)	-65C TO 150C	1000	CYS	995	0	DBI0DA005C
TEMP CYCLE, 5' RAMP, 10' DWELL	0744	DS1818	-55C TO 125C	1000	CYS	77	0	VJ753408AFB
TEMP CYCLE, 5' RAMP, 10' DWELL	0749	MAX4364ESA+	-65C TO 150C	1000	CYS	80	0	DD50EQ002L#
TEMP CYCLE, 5' RAMP, 10' DWELL	0750	DS1302	-55C TO 125C	1000	CYS	77	0	VJ801082ABA
TEMP CYCLE, 5' RAMP, 10' DWELL	0751	DS75	-55C TO 125C	1000	CYS	77	0	VJ754398AEG
TEMP CYCLE, 5' RAMP, 10' DWELL	0808	DS1844	-55C TO 125C	1000	CYS	77	0	ZK719430ABA
TEMP CYCLE, 5' RAMP, 10' DWELL	0808	DS1844	-55C TO 125C	1000	CYS	77	0	ZK719430ACA
TEMP CYCLE, 5' RAMP, 10' DWELL	0808	DS1844	-55C TO 125C	1000	CYS	77	0	ZK719430ADA
TEMP CYCLE, 5' RAMP, 10' DWELL	0810	DS1230	-40 TO 85C	1000	CYS	77	0	MG362516AAA-QAL
TEMP CYCLE, 5' RAMP, 10' DWELL	0810	DS1230	-40 TO 85C	1000	CYS	77	0	MG362517AAA-QAL
TEMP CYCLE, 5' RAMP, 10' DWELL	0810	DS1814	-55C TO 125C	1000	CYS	77	0	ZQ649015ARB
TEMP CYCLE, 5' RAMP, 10' DWELL	0810	DS1814	-55C TO 125C	1000	CYS	77	0	ZQ649015ASB
TEMP CYCLE, 5' RAMP, 10' DWELL	0810	MAX1802EHJ+	-65C TO 150C	1000	CYS	77	0	D66AC3008Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	0810	MAX1802EHJ+	-65C TO 150C	497	CYS	77	0	D66AC3008Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	0811	MAX6710EUT+	-65C TO 150C	500	CYS	80	0	D6O2DA007Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	0811	MAX6710EUT+	-65C TO 150C	1000	CYS	80	0	D6O2DA007Q1

TEMP CYCLE, 5' RAMP, 10' DWELL	0811	MAX6710EUT+	-65C TO 150C	1000	CYS	80	0	D6O2DA007Q3
TEMP CYCLE, 5' RAMP, 10' DWELL	0818	MAX1792EUA18+	-65C TO 150C	500	CYS	80	0	DOKBEA010I#
Total:							0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
BIASED MOISTURE	0628	DS1232	85/85, 5.5 VOLTS	1000	HRS	77	0 QD639652AB-NPI	
VISUAL INSPECTION	0742	DS2434	WHISKERS < 50uM			77	0 ZU723402AB	
HAST	0742	DS2434	130C, 85%R.H.,5.5V	96	HRS	77	0 ZU723402AB	
VISUAL INSPECTION	0742	DS2434	WHISKERS < 50uM			77	0 ZU723402AC	
HAST	0742	DS2434	130C, 85%R.H.,5.5V	96	HRS	77	0 ZU723402AC	
VISUAL INSPECTION	0742	DS2434	WHISKERS < 50uM			77	0 ZU723402AD	
HAST	0742	DS2434	130C, 85%R.H.,5.5V	96	HRS	77	0 ZU723402AD	
BIASED MOISTURE	0742	DS1834	85/85, 5.5 VOLTS	1000	HRS	77	0 VJ806167AFB	
BIASED MOISTURE	0750	DS1302	85/85, 5.5 VOLTS	1000	HRS	77	0 VJ801082ABA	
HAST	0751	DS75	130C, 85%R.H.,5.5V	96	HRS	77	0 VJ754398AEG	
BIASED MOISTURE	0808	DS1844	85/85, 5.5 VOLTS	1000	HRS	77	0 ZK719430ABA	
BIASED MOISTURE	0808	DS1844	85/85, 5.5 VOLTS	1000	HRS	77	0 ZK719430ACA	
BIASED MOISTURE	0808	DS1844	85/85, 5.5 VOLTS	1000	HRS	77	0 ZK719430ADA	
HAST	0810	DS1814	130C, 85%R.H.,5.0V	100	HRS	79	0 ZQ649015ARB	
HAST	0810	DS1814	130C, 85%R.H.,5.0V	100	HRS	79	0 ZQ649015ASB	
Total:							0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
MOISTURE SOAK	0729	MAX6708SKA-T	85 C/85% R.H.	1000	HRS	45	0 D0T3AE010Q1
MOISTURE SOAK	0729	MAX6708SKA-T	85 C/85% R.H.	1000	HRS	44	0 D0T3EA010Q2
MOISTURE SOAK	0729	MAX6708SKA-T	85 C/85% R.H.	500	HRS	50	0 D0T3EA010Q3
MOISTURE SOAK	0729	MAX6708AKA-T	85 C/85% R.H.	1000	HRS	45	0 DOT3EA010Q3
HAST, NO BIAS	0750	DS1302	130C, 85% R.H.	96	HRS	77	0 VJ801082ABA
MOISTURE SOAK	0810	DS1230	60C/90% R.H.	1000	HRS	77	0 MG362516AAA-QAL
MOISTURE SOAK	0810	DS1230	60C/90% R.H.	1000	HRS	77	0 MG362517AAA-QAL

HAST, NO BIAS	0810	DS1814	130C, 85% R.H.	100	HRS	77	0	ZQ649015ARB
HAST, NO BIAS	0810	DS1814	130C, 85% R.H.	100	HRS	77	0	ZQ649015ASB
MOISTURE SOAK	0811	MAX6710EUT+	85 C/85% R.H.	1000	HRS	46	0	D6O2DA007Q1
MOISTURE SOAK	0811	MAX6710EUT+	85 C/85% R.H.	1000	HRS	45	0	D6O2DA007Q2
MOISTURE SOAK	0811	MAX6710EUT+	85 C/85% R.H.	500	HRS	50	0	D6O2DA007Q3
MOISTURE SOAK	0811	MAX6710EUT+	85 C/85% R.H.	1000	HRS	45	0	D6O2DA007Q3
Total:							0	

FAILURE RATE:

MTTF (YRS): 63854

FITS: 1.8