



4/11/2009

RELIABILITY MONITOR REPORT
FOR

DAL 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	DS1233	DS1302	DS1814
DS1818	DS1834	DS1844	DS2434	DS75
MAX6613MXK+	MAX9018BEKA	MAX9711ETC	MAX9711ETC+	MAX9711ETC+(
MAX9718AEUB				

The calculated failure rate for devices using this process is:

FAILURE RATE: **MTTF (YRS): 135530** **FITS: 0.8**

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 10/1/2007 and 9/30/2008 .

Process Information:

Process Description: DAL 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	0710	DS1233	125C, 5.5 VOLTS	1000 HRS	80	0	DU646133BBB
HIGH TEMP OP LIFE	0727	MAX9718AEUB+	135C	1000 HRS	45	0	DJH3EA122B
HIGH TEMP OP LIFE	0732	MAX9018BEKA+	135C	1000 HRS	32	0	DER5NA010C#
HIGH TEMP OP LIFE	0732	MAX9018BEKA+	135C	1000 HRS	48	0	DER5BA010C#
HIGH TEMP OP LIFE	0732	MAX6613MXK+T	135C	1000 HRS	50	0	DH10CQ001Q1
HIGH TEMP OP LIFE	0732	MAX6613MXK+T	135C	1000 HRS	50	0	DH10CQ001Q2
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	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	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
Total:						0	

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	0727	MAX9718AEUB+	150C	1000 HRS	80	0	DJH3EA122B
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
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 5' RAMP, 10' DWELL	0536	MAX9711ETC+	-65C TO 150C	500 CYS	989	0	DBI0DQ003E
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	0710	DS1233	-55C TO 125C	1000 CYS	40	0	DU646133BBB
TEMP CYCLE, 5' RAMP, 10' DWELL	0727	MAX9718AEUB+	-65C TO 150C	1000 CYS	80	0	DJH3EA122B

TEMP CYCLE, 5' RAMP, 10' DWELL	0732	MAX9018BEKA+	-65C TO 150C	500	CYS	80	0	DER5BA010C#
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+	-65C TO 150C	500	CYS	985	0	DBI0DA005C
TEMP CYCLE, 5' RAMP, 10' DWELL	0742	MAX9711ETC	-65C TO 150C	1000	CYS	984	0	DBI0DA005C
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	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
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
HAST	0710	DS1233	130C, 85%R.H.,5.5V	96	HRS	77	0	DU646133BBB
HAST, NO BIAS	0710	DS1233	130C, 85% R.H.	96	HRS	40	0	DU646133BBB
BIASED MOISTURE	0727	MAX9718AEUB+	130C, 85% R.H.	96	HRS	50	0	DJH3EA122B

BIASED MOISTURE	0732	MAX9018BEKA+	130C, 85% R.H.	96	HRS	80	0	DER5BA010C#	
BIASED MOISTURE	0732	MAX9018BEKA+	130C, 85% R.H.	96	HRS	40	0	DER5BA010C#	
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	0732	MAX9018BEKA+	130C, 85% R.H.	96	HRS	80	0	DER5BA010C#
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
Total:							0	

FAILURE RATE:

MTTF (YRS): 135530

FITS: 0.8