

**RELIABILITY MONITOR REPORT
FOR**

0.35 μm Process

Dallas Semiconductor

**4401 South Beltwood Parkway
Dallas, TX 75244-3292**

**This Report was prepared by
Dallas Semiconductor Reliability Engineering**

Summary:

The data in the tables that follow was generated as the result of an on-going Process Reliability Monitor. The products covered by this process monitor are:

DS1088L	DS1099	DS2431	DS2460	DS2703
DS2780	DS2782	DS2801	DS2804	DS3984
DS3988	DS4026C	DS4303	DS4802	DS600
DS620				

The calculated failure rate for devices using this process is:

FAILURE RATE: **MTTF (YRS): 61102** **FITS: 1.9**

The parameters used to calculate this failure rate are as follows:

Cf: 60% **Ea: 0.7** **B: 0** **Tu: 25 °C** **Vu: 5.5 Volts**

The reliability data follows. At the start of this data is the process information. The next section is the detailed reliability data for each stress. The reliability data section includes the latest data available. This report covers data between 10/01/2004 and 09/30/2005 .

Device Information:

Process: 0.35 µm Process
Interconnect: Aluminum / 1% Silicon / 0.5% Copper
Gate Oxide Thickness: 131 Å

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0437	DS600	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0442	DS2780	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0449	DS2703	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0501	DS1088L	125C, 3.6 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0508	DS2782	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0508	DS3988	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0513	DS4026C	125C, 3.6 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0521	DS1099	125C, 5.5 VOLTS	1000 HRS	77	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0437	DS600	150C	1000 HRS	77	0	
STORAGE LIFE	0501	DS1088L	150C	1000 HRS	77	0	
STORAGE LIFE	0513	DS4026C	150C	1000 HRS	77	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
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TEMP CYCLE	0442	DS2780	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0449	DS2703	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0501	DS1088L	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0521	DS1099	-55C TO 125C	1000	CYS	77	0
Total:							0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	0442	DS2780	85/85, 5.5 VOLTS	1000	HRS	77	0
HAST	0449	DS2703	130C, 85%R.H.,5.5V	96	HRS	77	0
HAST	0521	DS1099	130C, 85%R.H.,5.5V	96	HRS	77	0
Total:							0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0442	DS2780	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0449	DS2703	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0501	DS1088L	121C, 2 ATM STEAM, UNBIASED	168	HRS	70	0
AUTOCLAVE	0521	DS1099	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
Total:							0

W/E ENDURANCE AND DATA RET'N

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
WRITE CYCLE STRESS (KCYS)	0442	DS2780	50 C, 5.5 VOLTS	50	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	75	0
STORAGE LIFE	0449	DS2703	150C	1000	HRS	77	0
WRITE CYCLE STRESS (KCYS)	0508	DS2782	50 C, 5.5 VOLTS	50	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	77	0
WRITE CYCLE STRESS (KCYS)	0508	DS3988	70 C, 5.5 VOLTS	30	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	75	0
Total:							0

FAILURE RATE:

MTTF (YRS): 61102

FITS: 1.9