

**RELIABILITY MONITOR REPORT
FOR**

0.35 μm Chartered 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:

DS21455	DS21458	DS2155	DS2156	DS2174
DS2194	DS21Q42	DS21Q44	DS26101	DS26102
DS26401	DS26502	DS26503	DS26528	DS3112
DS31256	DS3131	DS3134	DS3141	DS31412
DS3142	DS3143	DS3144	DS3146	DS3148
DS3150	DS3151	DS3152	DS3153	DS3154
DS3160	DS3164	DS3170	DS3184	

The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 15366 FITS: 7.4

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 1/1/04 and 12/31/04 .

Device Information:

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

Device Information:

Process: 0.35 µm Chartered Process
Interconnect: Aluminum / 1% Silicon / 0.5% Copper
Gate Oxide Thickness: 75 Å

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0403	DS3184	125C, 3.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0417	DS21458	125C, 3.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0418	DS26502	125C, 3.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0425	DS26528	125C, 3.5 VOLTS	1000 HRS	44	0	
				Total:		0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0417	DS21458	150C	1000 HRS	77	0	
				Total:		0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0417	DS21458	-55C TO 125C	1000 CYS	77	0	

TEMP CYCLE	0418	DS26502	-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 CYCLING	0417	DS21458	85/85, 3.5 VOLTS	1000	HRS	45	1 30031503
				Total:			1

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0418	DS26502	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
				Total:			0

FAILURE RATE: MTF (YRS): 15366 FITS: 7.4