

RELIABILITY MONITOR REPORT  
FOR

**0.35  $\mu\text{m}$  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
DS21Q42	DS21Q44	DS26101	DS26102	DS26401
DS26502	DS26503	DS3112	DS31256	DS3131
DS3134	DS3141	DS31412	DS3142	DS3143
DS3144	DS3146	DS3148	DS3150	DS3151
DS3152	DS3153	DS3154	DS3160	DS3184

The calculated failure rate for devices using this process is:

**FAILURE RATE:**                      **MTTF (YRS): 20916**                      **FITS: 5.5**

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 07/01/2003 and 06/30/2004 .

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### Device Information:

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

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#### OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0317	DS3154	125C, 3.5 VOLTS	1000 HRS		0	
HIGH TEMP OP LIFE	0319	DS31412	125C, 3.5 VOLTS	1000 HRS		0	
HIGH VOLTAGE LIFE	0320	DS31256	125C, 3.5 VOLTS	1000 HRS		0	
HIGH VOLTAGE LIFE	0332	DS26401	125C, 3.5 VOLTS	1000 HRS		0	
				<b>Total:</b>		<b>0</b>	

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#### STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0319	DS31412	150C	1000 HRS		0	
				<b>Total:</b>		<b>0</b>	

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#### TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0319	DS31412	-55C TO 125C	1000 CYS		0	
				<b>Total:</b>		<b>0</b>	

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#### TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	0319	DS31412	85/85, 3.5 VOLTS	1000 HRS		0	

**FAILURE RATE:**

**MTTF (YRS): 20916**

**FITS: 5.5**

**Total:**

**0**