

**RELIABILITY MONITOR REPORT
FOR**

0.6 μm Process-8"

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:

DS1089L	DS1090	DS12885	DS1310	DS1338
DS1338-3	DS1338-33	DS1340	DS1340C	DS1374
DS1374C	DS1375	DS13Q10	DS1500	DS1501
DS1553	DS1558	DS1620	DS1621	DS1626
DS1631	DS1643	DS1743	DS1748	DS1775
DS1805	DS1820B	DS1822	DS1825	DS1845
DS1847	DS1848	DS1849	DS1852	DS1854
DS1855	DS1856	DS1857	DS1858	DS1859
DS1861	DS1870	DS1881	DS18S20	DS1990
DS2118M	DS2119M	DS2120	DS2125	DS2127
DS21348	DS21352	DS21354	DS21448	DS2148
DS2149	DS2154	DS21552	DS21554	DS21600
DS21602	DS21604	DS21610	DS2198	DS21Q50
DS21Q58	DS21Q59	DS2401	DS2411	DS2432
DS2482-1	DS2482-8	DS2501	DS2502	DS2503
DS2505	DS25LV02	DS2711	DS2712	DS2715
DS2740	DS2740B	DS2751	DS2760	DS2761
DS2762	DS2764	DS2770	DS30MD	DS3231S
DS3232	DS3902	DS3903	DS3904	DS3905
DS3906	DS3930	DS4077	DS4077C	DS4301
DS4302	DS4520	DS4550	DS5002	DS5240
DS5250	DS7864B	DS7864D	DS80C310	DS80C320
DS80C323	DSQ3301-K01			

The calculated failure rate for devices using this process is:

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 04/01/2005 and 03/31/2006 .

Device Information:

Process: 0.6 µm Process-8"
Interconnect: Aluminum / 1% Silicon / 0.5% Copper
Gate Oxide Thickness: 150 Å

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH VOLTAGE LIFE	0505	DS5240	125C, 5.5 VOLTS	1000 HRS	45	0	
VISUAL INSPECTION			WHISKERS < 50µM		3	0	
HIGH TEMP OP LIFE	0507	DS2715	125C, 5.5 V (PSA) & 17.0 V (PSB)	1000 HRS	45	0	
HIGH TEMP OP LIFE	0509	DS1861	125C, 5.5 VOLTS	1000 HRS	45	2	30042301
HIGH TEMP OP LIFE	0517	DS21352	125C, 3.3 VOLTS	1000 HRS	77	0	

HIGH TEMP OP LIFE	0518	DS21352	125C, 3.3 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0519	DS1856	125C, 5.5 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0523	DS1859	125C, 5.5 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0523	DS3906	125C, 5.5 VOLTS	1000	HRS	45	0
HIGH TEMP OP LIFE	0524	DS80C320	125C, 5.5 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0525	DS1852	125C, 5.5 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0543	DS1955B2	125C, 3.3 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0547	DS80C320	125C, 5.5 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0549	DS1855	125C, 5.5 VOLTS	1000	HRS	77	0
Total:							2

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0505	DS5240	150C	1000	HRS	77	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
STORAGE LIFE	0507	DS2715	150C	1000	HRS	77	0
STORAGE LIFE	0524	DS80C320	150C	1000	HRS	77	0
STORAGE LIFE	0543	DS1955B2	85 C	1000	HRS	77	0
Total:							0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0505	DS5240	-55C TO 125C	1000	CYS	77	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
TEMP CYCLE	0517	DS21352	-55C TO 125C	1000	CYS	80	0
TEMP CYCLE	0518	DS21352	-55C TO 125C	1000	CYS	80	0
TEMP CYCLE	0524	DS80C320	-55C TO 125C	1000	CYS	77	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
TEMP CYCLE	0543	DS1955B2	-40 TO 85C	1000	CYS	77	0
TEMP CYCLE	0547	DS80C320	-55C TO 125C	1000	CYS	45	0
Total:							0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	0505	DS5240	85/85, 5.5 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
HAST	0524	DS80C320	130C, 85%R.H.,5.5V	96	HRS	77	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
Total:							0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
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AUTOCLAVE	0505	DS5240	121C, 2 ATM STEAM, UNBIASED	168	HRS	75	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
HAST, NO BIAS	0517	DS21352	130C, 85% R.H.	100	HRS	80	0
HAST, NO BIAS	0518	DS21352	130C, 85% R.H.	100	HRS	77	0
HAST, NO BIAS	0524	DS80C320	130C, 85% R.H.	200	HRS	77	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
MOISTURE SOAK	0543	DS1955B2	60C/90% R.H.	1000	HRS	77	0
AUTOCLAVE	0547	DS80C320	121C, 2 ATM STEAM, UNBIASED	168	HRS	45	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)	0509	DS1861	70 C, 5.5 VOLTS	30	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	77	0
WRITE CYCLE STRESS (KCYS)	0519	DS1856	70 C, 5.5 VOLTS	30	KCYS	77	1 30037704
STORAGE LIFE			150C	1000	HRS	76	0
WRITE CYCLE STRESS (KCYS)	0523	DS1859	70 C, 5.5 VOLTS	30	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	77	1 30040181
WRITE CYCLE STRESS (KCYS)	0523	DS3906	70 C, 5.5 VOLTS	30	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	75	0
WRITE CYCLE STRESS (KCYS)	0525	DS1852	85 C, 5.5 VOLTS	25	KCYS	77	1 30040425
STORAGE LIFE			150C	1000	HRS	76	0
WRITE CYCLE STRESS (KCYS)	0549	DS1855	85 C, 5.5 VOLTS	30	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	77	0
						Total:	3