

**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	DS1315
DS1338	DS1338-3	DS1338-33	DS1339	DS1340
DS1340C	DS1374	DS1374-3	DS1374-33	DS1374C
DS1375	DS13Q10	DS1482	DS1500	DS1501
DS1553	DS1558	DS1620	DS1621	DS1626
DS1631	DS1643	DS1678	DS1720	DS1721
DS1726	DS1731	DS1743	DS1748	DS1775
DS1805	DS1820B	DS1822	DS1825	DS1830
DS1831	DS1845	DS1847	DS1848	DS1849
DS1852	DS1854	DS1855	DS1856	DS1857
DS1858	DS1859	DS1861	DS1862	DS1864
DS1870	DS1881	DS1882	DS18S20	DS1921
DS1921G	DS1921H	DS1921Z	DS1961	DS1990
DS2030W	DS2045W	DS2050W	DS2065W	DS2070W
DS2118M	DS2119M	DS2120	DS2125	DS2127
DS21348	DS21352	DS21354	DS21448	DS2148
DS2149	DS2154	DS21552	DS21554	DS21600
DS21602	DS21604	DS21610	DS2198	DS21Q352
DS21Q354	DS21Q50	DS21Q552	DS21Q554	DS21Q58
DS21Q59	DS2401	DS2408	DS2411	DS2421
DS2422	DS2432	DS2470	DS2482-1	DS2482-8
DS2501	DS2502	DS2503	DS2505	DS25LV02
DS2711	DS2712	DS2715	DS2740	DS2740B
DS2751	DS2760	DS2761	DS2762	DS2764
DS2770	DS28EA00	DS3030W	DS3045W	DS3050W
DS3065W	DS3070W	DS30MD	DS3231S	DS3232
DS3234	DS3501	DS3901A	DS3902	DS3903
DS3904	DS3905	DS3906	DS3930	DS4077
DS4077C	DS4301	DS4302	DS4520	DS4550
DS5001	DS5002	DS5240	DS5250	DS7864B
DS7864D	DS7865	DS80C310	DS80C320	DS80C323
DSQ3301-K01	DSQ3301-K01+T			

The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 233010 FITS: 0.5

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

Cf: 60% Ea: 0.7 Tu: 25 °C

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 4/1/2006 and 3/31/2007 .

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 TEMP OP LIFE	0601	DS3234	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0607	DS2401	125C, 6.0 VOLTS	1000 HRS	80	0	
HIGH TEMP OP LIFE	0609	DS21448	125C, 3.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0609	DS21448	125C, 3.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0611	DS21Q352	125C, 3.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0611	DS21Q352	125C, 3.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0612	DS3901A	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0613	DS80C320	125C, 5.5 VOLTS	1000 HRS	70	0	
HIGH TEMP OP LIFE	0614	DS5250	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0614	DS2401	125C, 6.0 VOLTS	1000 HRS	80	0	
HIGH TEMP OP LIFE	0614	DS21Q50	125C, 3.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0619	DS1921	125C, 5.25 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0621	DS21Q50	125C, 3.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0621	DS21Q50	125C, 3.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0622	DS21Q50	125C, 3.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0622	DS21Q50	125C, 3.5 VOLTS	1000 HRS	45	0	
HIGH VOLTAGE LIFE	0622	DS5002	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH VOLTAGE LIFE	0622	DS5002	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH VOLTAGE LIFE	0622	DS5002	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0623	DS1882	125C, 5.5V (PSA), -7.0V (PSC) & +7.0V (PSD)	1000 HRS	77	0	
HIGH TEMP OP LIFE	0625	DS1805	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH VOLTAGE LIFE	0626	DS5250	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0626	DS2762	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0626	DS2740	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0627	DS21354	125C, 3.5 VOLTS	1000 HRS	45	0	
HIGH VOLTAGE LIFE	0627	DS5002	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0627	DS7865	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0629	DS2503	125C, 6.0 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0630	DS1805	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0635	DS2432	125C, 5.25 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0642	DS5250	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0647	DS2502	125C, 6.0 VOLTS	1000 HRS	77	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
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STORAGE LIFE	0601	DS3234	125C	1000	HRS	77	0
STORAGE LIFE	0607	DS2401	150C	1000	HRS	77	0
STORAGE LIFE	0609	DS21448	150C	1000	HRS	76	0
STORAGE LIFE	0609	DS21448	150C	1000	HRS	76	0
STORAGE LIFE	0611	DS21Q352	150C	1000	HRS	77	0
STORAGE LIFE	0611	DS21Q352	150C	1000	HRS	77	0
STORAGE LIFE	0613	DS80C320	150C	1000	HRS	77	0
STORAGE LIFE	0614	DS2401	150C	1000	HRS	77	0
STORAGE LIFE	0614	DS21Q50	150C	1000	HRS	77	0
STORAGE LIFE	0621	DS1955B5	85 C	1000	HRS	77	0
STORAGE LIFE	0621	DS21Q50	150C	1000	HRS	77	0
STORAGE LIFE	0621	DS21Q50	150C	1000	HRS	77	0
STORAGE LIFE	0622	DS21Q50	150C	1000	HRS	77	0
STORAGE LIFE	0622	DS21Q50	150C	1000	HRS	77	0
STORAGE LIFE	0622	DS5002	150C	1000	HRS	77	0
STORAGE LIFE	0622	DS5002	150C	1000	HRS	77	0
STORAGE LIFE	0622	DS5002	150C	1000	HRS	77	0
STORAGE LIFE	0625	DS1805	150C	1000	HRS	77	0
STORAGE LIFE	0626	DS5250	150C	1000	HRS	77	0
STORAGE LIFE	0626	DS2740	150C	1000	HRS	77	0
STORAGE LIFE	0627	DS21354	150C	1000	HRS	77	0
STORAGE LIFE	0627	DS5002	150C	1000	HRS	77	0
STORAGE LIFE	0629	DS2503	150C	1000	HRS	77	0
STORAGE LIFE	0647	DS2502	150C	1000	HRS	77	0
						Total:	0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0601	DS3234	-40 TO 85C	1000	CYS	77	0
TEMP CYCLE	0607	DS2401	-55C TO 125C	1000	CYS	45	0
TEMP CYCLE	0609	DS21448	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0609	DS21448	-55C TO 125C	1000	CYS	76	0
TEMP CYCLE	0611	DS21Q352	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0611	DS21Q352	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0613	DS80C320	-55C TO 125C	1000	CYS	45	0
TEMP CYCLE	0614	DS5250	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0614	DS2401	-55C TO 125C	1000	CYS	45	0

TEMP CYCLE	0614	DS21Q50	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0621	DS1955B5	-40 TO 85C	500	CYS	77	0
TEMP CYCLE	0621	DS21Q50	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0621	DS21Q50	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0622	DS21Q50	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0622	DS21Q50	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0622	DS5002	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0622	DS5002	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0622	DS5002	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0625	DS1805	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0626	DS5250	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0626	DS2740	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0627	DS21354	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0627	DS5002	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0642	DS5250	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0647	DS2502	-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	0601	DS3234	85/85, 5.5 VOLTS	1000 HRS	45	0	
HAST	0607	DS2401	130C, 85%R.H.,5.5V	96 HRS	77	0	
BIASED MOISTURE	0609	DS21448	85/85, 3.5 VOLTS	1000 HRS	45	0	
BIASED MOISTURE	0609	DS21448	85/85, 3.5 VOLTS	1000 HRS	45	0	
BIASED MOISTURE	0611	DS21Q352	85/85, 3.5 VOLTS	1000 HRS	45	0	
BIASED MOISTURE	0611	DS21Q352	85/85, 3.5 VOLTS	1000 HRS	45	0	
BIASED MOISTURE	0613	DS80C320	85/85, 5.5 VOLTS	1000 HRS	45	0	
HAST	0614	DS2401	130C, 85%R.H.,5.5V	96 HRS	77	0	
BIASED MOISTURE	0622	DS5002	85/85, 5.5 VOLTS	1000 HRS	45	0	
BIASED MOISTURE	0622	DS5002	85/85, 5.5 VOLTS	1000 HRS	45	0	
BIASED MOISTURE	0622	DS5002	85/85, 5.5 VOLTS	1000 HRS	454	0	
BIASED MOISTURE	0625	DS1805	85/85, 5.5 VOLTS	1000 HRS	45	0	
BIASED MOISTURE	0626	DS5250	85/85, 5.5 VOLTS	1000 HRS	45	0	
HAST	0626	DS2740	130C, 85%R.H.,5.5V	100 HRS	77	0	
HAST	0627	DS21354	130C, 85%R.H.,3.5V	96 HRS	45	0	
BIASED MOISTURE	0627	DS5002	85/85, 5.5 VOLTS	1000 HRS	45	0	
BIASED MOISTURE	0642	DS5250	85/85, 5.5 VOLTS	1000 HRS	45	0	
BIASED MOISTURE	0647	DS2502	85/85, 5.5 VOLTS	1000 HRS	77	0	

Total: 0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0601	DS3234	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0607	DS2401	121C, 2 ATM STEAM, UNBIASED	168 HRS	45	0	
HAST, NO BIAS	0609	DS21448	130C, 85% R.H.	200 HRS	76	0	
HAST, NO BIAS	0609	DS21448	130C, 85% R.H.	200 HRS	76	0	
AUTOCLAVE	0613	DS80C320	121C, 2 ATM STEAM, UNBIASED	168 HRS	45	0	
AUTOCLAVE	0614	DS5250	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0614	DS2401	121C, 2 ATM STEAM, UNBIASED	168 HRS	45	0	
HAST, NO BIAS	0614	DS21Q50	130C, 85% R.H.	100 HRS	75	0	
MOISTURE SOAK	0621	DS1955B5	60C/90% R.H.	1000 HRS	77	0	
HAST, NO BIAS	0621	DS21Q50	130C, 85% R.H.	200 HRS	77	0	
HAST, NO BIAS	0621	DS21Q50	130C, 85% R.H.	200 HRS	77	0	
HAST, NO BIAS	0622	DS21Q50	130C, 85% R.H.	200 HRS	77	0	
HAST, NO BIAS	0622	DS21Q50	130C, 85% R.H.	200 HRS	77	0	
AUTOCLAVE	0622	DS5002	121C, 2 ATM STEAM, UNBIASED	168 HRS	75	0	
AUTOCLAVE	0622	DS5002	121C, 2 ATM STEAM, UNBIASED	168 HRS	75	0	
AUTOCLAVE	0622	DS5002	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0625	DS1805	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0626	DS5250	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0626	DS2740	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
HAST, NO BIAS	0627	DS21354	130C, 85% R.H.	200 HRS	74	0	
AUTOCLAVE	0627	DS5002	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0642	DS5250	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0647	DS2502	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)	0612	DS3901A	70 C, 5.5 VOLTS	30 KCYS	77	0	
STORAGE LIFE			150C	1000 HRS	77	0	
WRITE CYCLE STRESS (KCYS)	0623	DS1882	70C, 5.5V (PSA), -7.0V (PSC) & +7.0V (PSD)	30 KCYS	77	0	
STORAGE LIFE			150C	1000 HRS	77	0	
WRITE CYCLE STRESS (KCYS)	0626	DS2762	85 C, 5.5 VOLTS	30 KCYS	77	0	
STORAGE LIFE			150C	1000 HRS	75	0	

WRITE CYCLE STRESS (KCYS)	0635	DS2432	25 C, 5.0 VOLTS	50	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	77	0
					Total:		0

FAILURE RATE: **MTTF (YRS): 233010** **FITS: 0.5**