

**RELIABILITY MONITOR REPORT
FOR**

0.6 μ m 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:

DS1050	DS1086	DS1086L	DS1087L	DS1089L
DS1090	DS1100	DS1100L	DS1123L	DS1135
DS1135L	DS12885	DS12R885	DS1310	DS1315
DS1318	DS1337	DS1337C	DS1338	DS1338-3
DS1338-33	DS1338C	DS1339	DS1339C	DS1339U-3
DS1339U-33	DS1340	DS1340C	DS1371	DS1374
DS1374-3	DS1374-33	DS1374C	DS1375	DS1390
DS13Q10	DS1482	DS1500	DS1501	DS1553
DS1558	DS1620	DS1621	DS1626	DS1631
DS1643	DS1672	DS1678	DS1682	DS1720
DS1721	DS1722	DS1726	DS1731	DS1743
DS1748	DS1775	DS1805	DS1809	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	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	DS2405
DS2408	DS2411	DS2421	DS2422	DS2432
DS2436	DS2438	DS2470	DS2482-1	DS2482-8
DS2501	DS2502	DS2503	DS2505	DS25LV02
DS2711	DS2712	DS2714	DS2715	DS2720
DS2740	DS2740B	DS2751	DS2760	DS2761
DS2762	DS2764	DS2770	DS28EA00	DS3030W
DS3045W	DS3050W	DS3065W	DS3070W	DS30MD
DS3231S	DS3232	DS3234	DS32B35	DS32C35
DS3501	DS3600	DS3901A	DS3902	DS3903
DS3904	DS3905	DS3906	DS3930	DS4000
DS4077	DS4077C	DS4301	DS4302	DS4402
DS4404	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): 279593 FITS: 0.4

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 7/1/2006 and 6/30/2007 .

Device Information:

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

DATA RETENTION

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0617	DS3600	150C	1000 HRS	77	0	
Total:						0	

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	0603	DS4404	125C, 5.5 VOLTS	192 HRS	45	0	
HIGH TEMP OP LIFE	0613	DS80C320	125C, 5.5 VOLTS	1000 HRS	70	0	
HIGH TEMP OP LIFE	0617	DS3600	125C, 3.6 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0619	DS1921	125C, 5.25 VOLTS	1000 HRS	77	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	DS4404	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0623	DS2714	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 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	0635	DS28EA00	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH VOLTAGE LIFE	0636	DS32B35	125C, 3.6 VOLTS	168 HRS	100	0	
HIGH VOLTAGE LIFE	0636	DS32B35	125C, 3.6 VOLTS	168 HRS	100	0	
HIGH TEMP OP LIFE	0636	DS32C35	125C, 3.6 VOLTS	1000 HRS	100	0	

HIGH VOLTAGE LIFE	0636	DS32B35	125C, 3.6 VOLTS	168	HRS	100	0
HIGH VOLTAGE LIFE	0636	DS32C35	125C, 3.6 VOLTS	168	HRS	100	0
HIGH VOLTAGE LIFE	0636	DS32C35	125C, 3.6 VOLTS	168	HRS	100	0
HIGH VOLTAGE LIFE	0636	DS32C35	125C, 3.6 VOLTS	168	HRS	100	0
HIGH TEMP OP LIFE	0641	DS21348	125C, 3.5 VOLTS	1000	HRS	45	0
HIGH TEMP OP LIFE	0642	DS5250	125C, 5.5 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0644	DS2154	125C, 5.25 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0647	DS2502	125C, 6.0 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0647	DS1086H	125C, 5.25 VOLTS	1000	HRS	45	0
HIGH TEMP OP LIFE	0648	DS1086H	125C, 5.25 VOLTS	1000	HRS	45	0
HIGH TEMP OP LIFE	0649	DS1086H	125C, 5.25 VOLTS	1000	HRS	45	0
HIGH TEMP OP LIFE	0651	DS1086H	125C, 5.25 VOLTS	1000	HRS	45	0
HIGH VOLTAGE LIFE	0651	DS5240	125C, 5.5 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0652	DS1086H	125C, 5.25 VOLTS	1000	HRS	45	0
HIGH TEMP OP LIFE	0701	DS1086H	125C, 5.25 VOLTS	1000	HRS	45	0
HIGH TEMP OP LIFE	0705	DS5001	125C, 5.5 VOLTS	1000	HRS	77	0
HIGH TEMP OP LIFE	0712	DS3904	125C, 5.5 VOLTS	1000	HRS	45	0
HIGH TEMP OP LIFE	0714	DS1682	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	0601	DS3234	125C	1000 HRS	77	0	
STORAGE LIFE	0613	DS80C320	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	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	0636	DS32C35	125C	1000 HRS	77	0	
STORAGE LIFE	0641	DS21348	150C	1000 HRS	77	0	

STORAGE LIFE	0647	DS2502	150C	1000	HRS	77	0
STORAGE LIFE	0647	DS1086H	150C	1000	HRS	77	0
STORAGE LIFE	0648	DS1086H	150C	1000	HRS	77	0
STORAGE LIFE	0649	DS1086H	150C	1000	HRS	77	0
STORAGE LIFE	0651	DS1086H	150C	1000	HRS	77	0
STORAGE LIFE	0651	DS5240	150C	1000	HRS	77	0
STORAGE LIFE	0652	DS1086H	150C	1000	HRS	77	0
STORAGE LIFE	0701	DS1086H	150C	1000	HRS	76	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	0613	DS80C320	-55C TO 125C	1000	CYS	45	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	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	0636	DS32C35	-40 TO 85C	1000	CYS	77	0
TEMP CYCLE	0641	DS21348	-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
TEMP CYCLE	0647	DS1086H	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0648	DS1086H	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0649	DS1086H	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0651	DS1086H	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0651	DS5240	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0652	DS1086H	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0701	DS1086H	-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	
BIASED MOISTURE	0613	DS80C320	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	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	
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	0636	DS32C35	85/85, 3.5 VOLTS	1000 HRS	77	0	
BIASED MOISTURE	0641	DS21348	85/85, 3.5 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	
HAST	0647	DS1086H	130C, 85%R.H.,5.5V	96 HRS	45	0	
HAST	0648	DS1086H	130C, 85%R.H.,5.5V	96 HRS	45	0	
HAST	0649	DS1086H	130C, 85%R.H.,5.5V	96 HRS	45	0	
HAST	0651	DS1086H	130C, 85%R.H.,5.5V	96 HRS	45	0	
BIASED MOISTURE	0651	DS5240	85/85, 5.5 VOLTS	1000 HRS	77	0	
HAST	0652	DS1086H	130C, 85%R.H.,5.5V	96 HRS	45	0	
HAST	0701	DS1086H	130C, 85%R.H.,5.5V	96 HRS	45	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	0613	DS80C320	121C, 2 ATM STEAM, UNBIASED	168 HRS	45	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	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
HAST, NO BIAS	0636	DS32C35	130C, 85% R.H.	96	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
AUTOCLAVE	0647	DS1086H	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0648	DS1086H	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0649	DS1086H	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0651	DS1086H	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0651	DS5240	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0652	DS1086H	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0701	DS1086H	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)	0623	DS1882	70C, 5.5 V (PSA), -7.0 V (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
WRITE CYCLE STRESS (KCYS)	0635	DS28EA00	85 C, 5.5 VOLTS	30	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	77	0
WRITE CYCLE STRESS (KCYS)	0635	DS28EA00	25 C, 5.5 VOLTS	50	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	77	0
WRITE CYCLE STRESS (KCYS)	0712	DS3904	70 C, 5.5 VOLTS	30	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	77	0
WRITE CYCLE STRESS (KCYS)	0714	DS1682	85 C, 5.5 VOLTS	30	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	77	0
Total:							0

FAILURE RATE:

MTTF (YRS): 279593

FITS: 0.4