

**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	DS1743	DS1748	DS1775	DS1805
DS1820B	DS1822	DS1825	DS1845	DS1847
DS1848	DS1849	DS1852	DS1854	DS1855
DS1856	DS1857	DS1858	DS1859	DS1861
DS1862	DS1870	DS1881	DS1882	DS18S20
DS1921	DS1921G	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	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	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): 56653 FITS: 2.0

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 7/1/2005 and 6/30/2006.

Device Information:

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

OPERATING LIFE

DESCRIPTION	DATE	TEST	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
	CODE	VEHICLE					

HIGH TEMP OP LIFE	0447	DS2154	125C, 5.0 VOLTS	1000 HRS	77	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	0523	DS3906	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0523	DS2154	125C, 5.0 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0524	DS80C320	125C, 5.5 VOLTS	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3		
HIGH TEMP OP LIFE	0525	DS1852	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0525	DS2502	125C, 5.5 VOLTS	1000 HRS	87	0	
HIGH TEMP OP LIFE	0530	DS5002	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0541	DS21352	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	0548	DS1862	125C, 5.5V (PSA) & 3.6V (PSB)	1000 HRS	77	0	
HIGH TEMP OP LIFE	0549	DS1855	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0606	DS25LV02	125C, 5.5 VOLTS	1000 HRS	77	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	0614	DS5250	125C, 5.5 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	
Total:						2	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0524	DS80C320	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3		
STORAGE LIFE	0525	DS2502	150C	1000 HRS	77	0	
STORAGE LIFE	0525	DS2502	150C	1000 HRS	77	0	
STORAGE LIFE	0606	DS25LV02	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	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
Total:							0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0447	DS2154	-55C TO 125C	1000	CYS	80	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	0523	DS2154	-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	0525	DS2502	-55C TO 125C	1000	CYS	76	0
TEMP CYCLE	0525	DS2502	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0541	DS21352	-55C TO 125C	1000	CYS	80	0
TEMP CYCLE	0547	DS80C320	-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	0614	DS5250	-55C TO 125C	1000	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
Total:							0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0524	DS80C320	130C, 85%R.H.,5.5V	96	HRS	77	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
BIASED MOISTURE	0525	DS2502	85/85, 5.5 VOLTS	1000	HRS	99	0
BIASED MOISTURE	0547	DS80C320	85/85, 5.5 VOLTS	1000	HRS	45	1 30047208
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
Total:							1

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST, NO BIAS	0447	DS2154	130C, 85% R.H.	100 HRS	80	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	0523	DS2154	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	
AUTOCLAVE	0525	DS2502	121C, 2 ATM STEAM, UNBIASED	168 HRS	76	0	
AUTOCLAVE	0525	DS2502	121C, 2 ATM STEAM, UNBIASED	168 HRS	9	0	
HAST, NO BIAS	0541	DS21352	130C, 85% R.H.	100 HRS	79	0	
AUTOCLAVE	0547	DS80C320	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	0614	DS5250	121C, 2 ATM STEAM, UNBIASED	168 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	
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)	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)	0548	DS1862	70 C, 5.5V (PSA) & 3.6V (PSB)	50 KCYS	77	0	
STORAGE LIFE			150C	1000 HRS	77	0	
WRITE CYCLE STRESS (KCYS)	0549	DS1855	85 C, 5.5 VOLTS	30 KCYS	77	0	
STORAGE LIFE			150C	1000 HRS	77	0	
WRITE CYCLE STRESS (KCYS)	0612	DS3901A	70 C, 5.5 VOLTS	30 KCYS	77	0	
STORAGE LIFE			150C	1000 HRS	77	0	
Total:						1	

FAILURE RATE:**MTTF (YRS): 56653****FITS: 2.0**