

**RELIABILITY MONITOR REPORT
FOR**

0.8 μm 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:

DS1023	DS1033	DS1035	DS1044	DS1065
DS1073	DS1075	DS1175	DS1216	DS1231
DS1232	DS1233	DS1302	DS1305	DS1306
DS1307	DS1308	DS1312	DS1314	DS1315
DS1321	DS1323	DS13D12	DS13D14	DS13D21
DS1481	DS1620	DS1621	DS1623	DS1624
DS1629	DS1670	DS1671	DS1673	DS1674
DS1677	DS1680	DS1685	DS1705	DS1706
DS1707	DS1708	DS1720	DS1721	DS17285
DS17485	DS1780	DS17885	DS1800	DS1801
DS1802	DS1803	DS1804	DS1806	DS1807
DS1810	DS1811	DS1812	DS1813	DS1814
DS1815	DS1816	DS1817	DS1818	DS1819
DS1821	DS1832	DS1834	DS1836	DS1844
DS1866	DS1868	DS2105	DS2106	DS2109
DS2110	DS2114	DS2118M	DS21372	DS2151
DS2152	DS2153	DS2154	DS2172	DS21Q41
DS21S07	DS21T05	DS21T06	DS21T07	DS21T11
DS2401	DS2406	DS2407	DS2423	DS2430
DS2434	DS2435	DS2436	DS2480	DS24S03
DS24S34	DS2502	DS2503	DS2505	DS2506
DS32KHZ	DS32KHZS	DS4201	DS56	DS60
DS75	DS76KHZ	DS80CH10	DS83C520	DS87C520
DS87C530				

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: 0.8 µm Process
Interconnect: Aluminum / 1% Silicon / 0.5% Copper
Gate Oxide Thickness: 175 Å

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0509	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0511	DS1302	125C, 5.5 VOLTS	1000 HRS	80	0	
HIGH TEMP OP LIFE	0512	DS2430	125C, 6.0 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0520	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	45	0	

HIGH TEMP OP LIFE	0520	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	45	0
HIGH TEMP OP LIFE	0520	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	45	0
HIGH TEMP OP LIFE	0522	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	45	0
HIGH TEMP OP LIFE	0522	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	45	0
HIGH TEMP OP LIFE	0522	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	45	0
HIGH TEMP OP LIFE	0532	DS1624	125C, 5.5 VOLTS	1000 HRS	77	0
HIGH TEMP OP LIFE	0535	DS1624	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	0509	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0512	DS2430	150C	1000 HRS	77	0	
STORAGE LIFE	0512	DS2430	150C	1000 HRS	77	0	
STORAGE LIFE	0520	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0520	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0520	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0522	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0522	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0522	DS32KHZS	125C	1000 HRS	77	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0509	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE	0511	DS1302	-55C TO 125C	1000 CYS	45	0	
TEMP CYCLE	0512	DS2430	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0512	DS2430	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0520	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE	0520	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE	0520	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE	0522	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE	0522	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE	0522	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE	0535	DS1624	-55C TO 125C	1000 CYS	77	0	
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
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BIASED MOISTURE	0509	DS32KHZS	85/85, 5.5 VOLTS	1000	HRS	77	0
BIASED MOISTURE	0511	DS1302	85/85, 5.5 VOLTS	1000	HRS	77	0
BIASED MOISTURE	0512	DS2430	85/85, 5.5 VOLTS	1000	HRS	45	0
BIASED MOISTURE	0512	DS2430	85/85, 5.5 VOLTS	1000	HRS	45	0
BIASED MOISTURE	0520	DS32KHZS	85/85, 5.5 VOLTS	1000	HRS	77	0
BIASED MOISTURE	0520	DS32KHZS	85/85, 5.5 VOLTS	1000	HRS	77	0
BIASED MOISTURE	0520	DS32KHZS	85/85, 5.5 VOLTS	1000	HRS	77	0
BIASED MOISTURE	0522	DS32KHZS	85/85, 5.5 VOLTS	1000	HRS	77	0
BIASED MOISTURE	0522	DS32KHZS	85/85, 5.5 VOLTS	1000	HRS	77	0
BIASED MOISTURE	0522	DS32KHZS	85/85, 5.5 VOLTS	1000	HRS	77	0
HAST	0535	DS1624	130C, 85%R.H.,5.5V	96	HRS	77	0
Total:							0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0509	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168	HRS	76	0
AUTOCLAVE	0511	DS1302	121C, 2 ATM STEAM, UNBIASED	96	HRS	45	0
AUTOCLAVE	0512	DS2430	121C, 2 ATM STEAM, UNBIASED	168	HRS	75	0
AUTOCLAVE	0512	DS2430	121C, 2 ATM STEAM, UNBIASED	168	HRS	76	0
AUTOCLAVE	0520	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0520	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0520	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0522	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168	HRS	76	0
AUTOCLAVE	0522	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0522	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0535	DS1624	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)	0532	DS1624	85 C, 5.5 VOLTS	25	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	77	0
WRITE CYCLE STRESS (KCYS)	0535	DS1624	85 C, 5.5 VOLTS	25	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	77	0
Total:							0