

**RELIABILITY MONITOR REPORT  
FOR**

**0.8  $\mu\text{m}$  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:

DS1023	DS1075	DS1175	DS1231	DS1232
DS1233	DS1302	DS1305	DS1306	DS1307
DS1312	DS1314	DS1315	DS1321	DS1323
DS13D12	DS13D14	DS1624	DS1629	DS1670
DS1673	DS1677	DS1685	DS1705	DS1706
DS1707	DS1708	DS17285	DS17485	DS1780
DS17885	DS1801	DS1803	DS1804	DS1806
DS1807	DS1810	DS1811	DS1812	DS1813
DS1814	DS1815	DS1816	DS1817	DS1818
DS1819	DS1821	DS1830	DS1832	DS1834
DS1836	DS1844	DS1866	DS2110	DS2172
DS2406	DS2430	DS2464	DS2480	DS24S03
DS24S34	DS2506	DS32KHZ	DS32KHZS	DS75
DS83C520	DS87C520	DS87C530		

The calculated failure rate for devices using this process is:

**FAILURE RATE: MTTF (YRS): 54287 FITS: 2.1**

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: 0.8 µm Process-8"  
 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	0628	DS1232	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0633	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0636	DS1302	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0637	DS2430	125C, 6.0 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0642	DS87C520	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0648	DS2406	125C, 6.0 VOLTS	1000 HRS	77	0	
<b>Total:</b>						<b>0</b>	

**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0633	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0642	DS87C520	150C	1000 HRS	77	0	

STORAGE LIFE	0648	DS2406	150C	1000	HRS	77	0
						<b>Total:</b>	<b>0</b>

**TEMPERATURE CYCLE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0628	DS1232	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0633	DS32KHZS	-40 TO 85C	1000	CYS	77	0
TEMP CYCLE	0636	DS1302	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0637	DS2430	-55C TO 125C	1000	CYS	77	0
TEMP CYCLE	0642	DS87C520	-55C TO 125C	1000	CYS	77	0
						<b>Total:</b>	<b>0</b>

**TEMPERATURE HUMIDITY BIAS**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0628	DS1232	130C, 85%R.H.,5.5V	96	HRS	77	0
BIASED MOISTURE	0633	DS32KHZS	85/85, 5.5 VOLTS	1000	HRS	77	0
BIASED MOISTURE	0636	DS1302	85/85, 5.5 VOLTS	1000	HRS	77	0
BIASED MOISTURE	0637	DS2430	85/85, 5.5 VOLTS	1000	HRS	77	0
HAST	0642	DS87C520	130C, 85%R.H.,5.5V	96	HRS	77	0
						<b>Total:</b>	<b>0</b>

**UNBIASED MOISTURE RESISTANCE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0628	DS1232	121C, 2 ATM STEAM, UNBIASED	168	HRS	75	0
AUTOCLAVE	0633	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0636	DS1302	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0637	DS2430	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0642	DS87C520	121C, 2 ATM STEAM, UNBIASED	168	HRS	75	0
						<b>Total:</b>	<b>0</b>

**W/E ENDURANCE AND DATA RET'N**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
WRITE CYCLE STRESS (KCYS)	0637	DS2430	25 C, 5.0 VOLTS	100	KCYS	77	0
STORAGE LIFE			150C	1000	HRS	77	0
						<b>Total:</b>	<b>0</b>

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