

# Dallas Semiconductor Reliability Report: DS1265Y-07I, Rev A, 8MEG NVSRAM

Summary Data with Chi-Square Distribution Assumed.  
 Stress Ambient Temperature and Voltage to  
 Field Ambient Temperature And Voltage  
 Failure Rate Determined by Sum of Parts

Cf: 60%      Tuse: 55 °C  
 Ea: 0.7      Vuse: 5.5 Volts  
 β: 1

## QUALIFICATION VEHICLES INCLUDED IN THIS ANALYSIS:

<u>PRODUCT</u>	<u>REV</u>	<u>PIN COUNT</u>	<u>PACKAGE</u>	<u>SIZE</u>
4MEG SRAM-1	na	32	SOIC	430
4MEG SRAM-2	na	32	SOIC	430
BR1632(2)	na	2	CELL	16
DS1321	A2	20	TSSOP	173
DS1321	A3	20	TSSOP	173

STRESS	CONDITION	READPOINT	QUANTITY	FAILS	DEVICE HRS
<b><u>4MEG SRAM-1</u></b>					
HIGH VOLTAGE LIFE	125C, 6.0 VOLTS	48 HOURS	294	0	1813433
HIGH VOLTAGE LIFE	125C, 6.0 VOLTS	336 HOURS	292	0	10806583
HIGH VOLTAGE LIFE	125C, 6.0 VOLTS	1000 HOURS	291	0	24829851
DATE CODE RANGE:	<b>9901 to 9903</b>		<b>TOTALS:</b>	<b>0</b>	<b>DEVICE HRS: 3.74E+07</b>
					<b>FITS: 24</b>
<b><u>4MEG SRAM-2</u></b>					
HIGH VOLTAGE LIFE	125C, 6.0 VOLTS	48 HOURS	294	0	1813433
HIGH VOLTAGE LIFE	125C, 6.0 VOLTS	336 HOURS	292	0	10806583
HIGH VOLTAGE LIFE	125C, 6.0 VOLTS	1000 HOURS	291	0	24829851
DATE CODE RANGE:	<b>9901 to 9903</b>		<b>TOTALS:</b>	<b>0</b>	<b>DEVICE HRS: 3.74E+07</b>
					<b>FITS: 24</b>
<b><u>BR1632(2)</u></b>					
HIGH TEMPERATURE STOR	110C	1500 HOURS	200	2	47903800

STRESS	CONDITION	READPOINT	QUANTITY	FAILS	DEVICE HRS
DATE CODE RANGE:	9207 to 9406		TOTALS:	2	DEVICE HRS: 4.79E+07
					FITs: 65
<b>DS1321</b>					
INFANT LIFE	125C, 7.0 VOLTS	48 HOURS	630	0	10563049
HIGH VOLTAGE LIFE	125C, 7.0 VOLTS	336 HOURS	232	0	27229194
HIGH VOLTAGE LIFE	125C, 7.0 VOLTS	1000 HOURS	231	0	53578134
DATE CODE RANGE:	9702 to 9724		TOTALS:	0	DEVICE HRS: 9.14E+07
					FITs: 10
		FAILURE RATE	MTBF (yrs):	928	TOTAL FITs: 123

<u>FILE #</u>	<u>FAILURE MODE</u>	<u>FAILURE MECHANISM</u>
BATT	LOW BATTERY	ELECTROLYTE CONSUMPTION (Ea = 1.0ev)

# Dallas Semiconductor Reliability Report: Fastech Assembly Qualification, Module W/Hi Density SMT

## QUALIFICATION VEHICLES INCLUDED IN THIS ANALYSIS:

<u>PRODUCT</u>	<u>REV</u>	<u>PIN COUNT</u>	<u>PACKAGE</u>	<u>SIZE</u>	<u>ASSEMBLY SITE</u>
DS1646	B2	32	Module w/Hi Density SMT	720	Fastech

STRESS	CONDITION	READPOINT	QUANTITY	FAILS
<b><u>PACKAGE TESTS</u></b>				
X-RAY	MIL-STD-883-2012 : TOP & SIDE		12	0
SOLDERABILITY	MIL-STD-883-2012 : TOP & SIDE		6	0
DATE CODE RANGE:	<b>9932 to 9951</b>		TOTALS:	<b>0</b>
<b><u>TEMPERATURE CYCLE</u></b>				
TEMP CYCLE	-40 TO 85C	300 CYCLES	154	0
TEMP CYCLE	-40 TO 85C	1000 CYCLES	154	1
DATE CODE RANGE:	<b>9932 to 9951</b>		TOTALS:	<b>1</b>
<b><u>UNBIASED MOISTURE RESISTANCE</u></b>				
MOISTURE SOAK	60C/90% R.H.	288 HOURS	66	0
MOISTURE SOAK	60C/90% R.H.	576 HOURS	65	0
MOISTURE SOAK	60C/90% R.H.	960 HOURS	65	0
DATE CODE RANGE:	<b>0011 to 0011</b>		TOTALS:	<b>0</b>

<u>FILE #</u>	<u>FAILURE MODE</u>	<u>FAILURE MECHANISM</u>
24642	INPUT LEAKAGE	POSSIBLE CONTAMINATION