

RELIABILITY MONITOR REPORT
FOR

SOT Package

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 Package Reliability Monitor. The assemblies covered by this package monitor are:

ASSY SITE	PINS	PACKAGE			
A TEC	3	SOT23	A TEC	5	SOT23
A TEC	3	SOT23 A TEC	Carsem	3	SOT223
Carsem	3	SOT23	Carsem	5	SOT23
Carsem	8	SOT23	Fastech	3	SOT23
Fastech	5	SOT23	Hana	3	SOT223
NSEB	3	SOT23	NSEB	5	SOT23

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 12984 FITS: 8.8

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 a description of the assembly vehicle used to generate this reliability data. 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 1/1/04 and 12/31/04 .

Assembly Information:

Package Type: SOT223 140 mil
 Flammability: UL 94-V0
 Moisture Sensitivity
 (JEDEC J-STD20A) Level 1
 Date Code Range: 0402 to 0436

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0402	DS1233	125C, 5.5 VOLTS	1000 HRS	80	0	
HIGH TEMP OP LIFE	0410	DS1233	125C, 5.5 VOLTS	1000 HRS	80	0	
HIGH TEMP OP LIFE	0421	DS1233	125C, 5.5 VOLTS	1000 HRS	61	0	
Total:						0	

PRECONDITIONING LEVEL 1

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
ULTRASOUND	0402	DS1233	J-STD-020		4	0	
STORAGE LIFE	0402	DS1233	125C	24 HRS	241		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	241		
CONVECTION REFLOW			235C +5/-0C	3 PASS	241	0	
PRECONDITION U/S	0402	DS1233	J-STD-020		4	0	
ULTRASOUND	0410	DS1233	J-STD-020		4	0	
STORAGE LIFE	0410	DS1233	125C	24 HRS	241		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	241		
CONVECTION REFLOW			235C +5/-0C	3 PASS	241	0	
PRECONDITION U/S	0410	DS1233	J-STD-020		4	0	

ULTRASOUND	0421	DS1233	J-STD-020			4	0
STORAGE LIFE	0421	DS1233	125C	24	HRS	196	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	196	
CONVECTION REFLOW			235C +5/-0C	3	PASS	196	0
PRECONDITION U/S	0421	DS1233	J-STD-020			4	0
ULTRASOUND	0436	DS1233	J-STD-020			241	0
STORAGE LIFE	0436	DS1233	125C	24	HRS	241	0
MOISTURE SOAK			85 C/85% R.H.	168	HRS	241	0
CONVECTION REFLOW			235C +5/-0C	3	PASS	241	0
Total:						0	0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0402	DS1233	-55C TO 125C	1000	CYS	40	0
TEMP CYCLE	0410	DS1233	-55C TO 125C	1000	CYS	40	0
TEMP CYCLE	0421	DS1233	-55C TO 125C	1000	CYS	35	0
Total:						0	0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0402	DS1233	130C, 85%R.H.,5.5V	96	HRS	77	0
HAST	0410	DS1233	130C, 85%R.H.,5.5V	96	HRS	77	0
HAST	0421	DS1233	130C, 85%R.H.,5.5V	96	HRS	61	0
Total:						0	0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0402	DS1233	121C, 2 ATM STEAM, UNBIASED	168	HRS	40	0
AUTOCLAVE	0410	DS1233	121C, 2 ATM STEAM, UNBIASED	168	HRS	40	0
AUTOCLAVE	0421	DS1233	121C, 2 ATM STEAM, UNBIASED	168	HRS	35	0
Total:						0	0

FAILURE RATE: **MTTF (YRS): 12984** **FITS: 8.8**