

RELIABILITY MONITOR REPORT
FOR

SPM 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		
Carsem	48	Single Piece BGA Module w/Batter	Dallas	256 Single Piece BGA Module w/Batter
Dallas	256	Single Piece BGA Module w/Batter	Dallas	256 Single Piece BGA Module w/Batter

Note: Due to the nature of the construction on this assembly, there is no operating life data collected.

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 10/1/2005 and 9/30/2006.

Assembly Information:

Package Type: Single Piece Module (RoHS) 27x27x7.9
 Flammability: UL 94-V0
 Moisture Sensitivity (JEDEC J-STD20A) Level 3
 Date Code Range: 0606 to 0615

MECHANICAL LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MECHANICAL SHOCK	0606	DS3065W	200G, 1/2 SINE, 6 MS	30	CYS	22	0
VIBRATION, VARIABLE FREQUENCY	0606	DS3065W	10g or 0.06", 5Hz-2KHz, X Y Z axis	9	HRS	22	0
MECHANICAL SHOCK	0615	DS2045W	200G, 1/2 SINE, 6 MS	30	CYS	22	0
VIBRATION, VARIABLE FREQUENCY	0615	DS2045W	10g or 0.06", 5Hz-2KHz, X Y Z axis	9	HRS	22	0
MECHANICAL SHOCK	0615	DS3065W	200G, 1/2 SINE, 6 MS	30	CYS	22	0
VIBRATION, VARIABLE FREQUENCY	0615	DS3065W	10g or 0.06", 5Hz-2KHz, X Y Z axis	9	HRS	22	0
Total:						0	

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
X-RAY	0606	DS3065W	MIL-STD-883-2012 : TOP & SIDE VIEW		6	0	
X-RAY	0615	DS2045W	MIL-STD-883-2012 : TOP & SIDE VIEW		6	0	
X-RAY	0615	DS3065W	MIL-STD-883-2012 : TOP & SIDE VIEW		6	0	
Total:						0	

PRECONDITIONING LEVEL 3

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0606	DS3065W	125C	48	HRS	275	
MOISTURE SOAK			30C/60% R.H.	192	HRS	275	
CONVECTION REFLOW			220C +5/-0C	2	PASS	275	
GROSS LEAK			25 C, AIR PRESSURE DECAY			275	0
STORAGE LIFE	0615	DS2045W	125C	48	HRS	275	

MOISTURE SOAK	0615	DS2045W	30C/60% R.H.	192	HRS	275		
CONVECTION REFLOW			220C +5/-0C	2	PASS	275		
GROSS LEAK			25 C, AIR PRESSURE DECAY			275	0	
STORAGE LIFE	0615	DS3065W	125C	48	HRS	275		
MOISTURE SOAK			30C/60% R.H.	192	HRS	275		
CONVECTION REFLOW			220C +5/-0C	2	PASS	275		
GROSS LEAK			25 C, AIR PRESSURE DECAY			275	0	
Total:							0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO	
STORAGE LIFE	0606	DS3065W	85 C	1000	HRS	77	0	
STORAGE LIFE	0615	DS2045W	85 C	1000	HRS	77	0	
STORAGE LIFE	0615	DS3065W	85 C	1000	HRS	77	0	
Total:							0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO	
TEMP CYCLE	0606	DS3065W	-40 TO 85C	1000	CYS	77	0	
TEMP CYCLE	0615	DS2045W	-40 TO 85C	1000	CYS	77	0	
TEMP CYCLE	0615	DS3065W	-40 TO 85C	1000	CYS	77	0	
Total:							0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO	
FLUX DIP & H2O RINSE	0606	DS3065W	JESD22-A113	1	HRS	77	0	
BIASED MOISTURE (BATTERY)			60C/90% R.H., BATTERY BIAS	1000	HRS	77	0	
FLUX DIP & H2O RINSE	0615	DS2045W	JESD22-A113	1	HRS	77	0	
BIASED MOISTURE (BATTERY)			60C/90% R.H., BATTERY BIAS	1000	HRS	77	0	
FLUX DIP & H2O RINSE	0615	DS3065W	JESD22-A113	1	HRS	77	0	
BIASED MOISTURE (BATTERY)			60C/90% R.H., BATTERY BIAS	1000	HRS	77	0	
Total:							0	