



07/28/2004

RELIABILITY MONITOR REPORT
FOR

BGA Module 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	ASSY SITE	PINS	PACKAGE
ATP (Amkor, PI)	256	MCMBGA	ATP (Amkor, PI)	300	MCMBGA
Dallas	168	BGA Module, 1 Side	Dallas	168	BGA Module, 2 Sided, Frame
Fastech	168	BGA Module, 1 Side	Stats	256	MCMBGA
Stats	300	MCMBGA			

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 07/01/2003 and 06/30/2004.

Assembly Information:

Package Type: BGA Module 1670 mil
 Flammability: UL 94-V0
 Moisture Sensitivity (JEDEC J-STD20A) Level 4
 Date Code Range: 0348 to 0348

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
X-RAY	0348	DS1254	MIL-STD-883-2012 : TOP & SIDE VIEW		6	0	
PHYSICAL DIMENSIONS			JESD22-B100		6	0	
MARK PERMANENCY			JESD22-B107		6	0	
BALL SHEAR			JESD22-B117		6	0	
Total:						0	

PRECONDITIONING LEVEL 3

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0348	DS1254	125C	24 HRS	135		
MOISTURE SOAK			30C/60% R.H.	192 HRS	135		
CONVECTION REFLOW			220C	2 PASS	135	0	
EXTERNAL VISUAL			JESD22-B101		135	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0348	DS1254	0C TO 70C	1000 CYS	45	0	
EXTERNAL VISUAL			JESD22-B101		45	0	
Total:						0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	0348	DS1254	60C/90% R.H.	1000 HRS	45	0	
Total:						0	

