



05/02/2006

RELIABILITY MONITOR REPORT  
FOR

**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		
Dallas	6	Module	Dallas	10 Module w/Bent Frame
Dallas	14	Module w/Bent Frame	Dallas	16 Module w/Bent Frame
Dallas	24	Module w/Bent Frame	Dallas	28 Module w/Bent Frame
Dallas	7	Module w/Bent Frame	Dallas	24 Module w/Hi Density SMT
Dallas	26	Module w/Hi Density SMT	Dallas	28 Module w/Hi Density SMT
Dallas	32	Module w/Hi Density SMT	Dallas	36 Module w/Hi Density SMT
Dallas	40	Module w/Hi Density SMT	Dallas	0 Module w/Thru Hole
Dallas	24	Module w/Thru Hole	Dallas	28 Module w/Thru Hole
Dallas	32	Module w/Thru Hole	Dallas	42 Module w/Thru Hole
Fastech	6	Module	Fastech	10 Module w/Bent Frame
Fastech	14	Module w/Bent Frame	Fastech	16 Module w/Bent Frame
Fastech	24	Module w/Bent Frame	Fastech	28 Module w/Bent Frame
Fastech	28	Module w/Bent Frame (Pb-Free)	Fastech	24 Module w/Hi Density SMT
Fastech	28	Module w/Hi Density SMT	Fastech	32 Module w/Hi Density SMT
Fastech	36	Module w/Hi Density SMT	Fastech	40 Module w/Hi Density SMT
Fastech	24	Module w/Hi Density SMT (Pb-Free)	Fastech	28 Module w/Hi Density SMT (Pb-Free)
Fastech	32	Module w/Hi Density SMT (Pb-Free)	Fastech	24 Module w/Thru Hole
Fastech	28	Module w/Thru Hole	Fastech	32 Module w/Thru Hole
Fastech	28	Module w/Thru Hole (Pb-Free)	Fastech	32 Module w/Thru Hole (Pb-Free)

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 04/01/2005 and 03/31/2006 .

**Assembly Information:**

Package Type: Module  
 Flammability: UL 94-V0  
 Moisture Sensitivity (JEDEC J-STD20A) NA  
 Date Code Range: 0528 to 0528

**PACKAGE TESTS**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
SOLDERABILITY (Pb-Free)	0528	DS1643	JESD22-B102, COND C		3	0	
SOLDERABILITY (Sn/Pb)			JESD22-B102, COND C		3	0	
X-RAY FLUORESCENCE	0528	DS1643	MATERIAL ANALYSIS		15	0	
X-RAY FLUORESCENCE	0528	DS1643	MATERIAL ANALYSIS		15	0	
PLATING THICKNESS	0528	DS1643	MATERIAL ANALYSIS		3	0	
<b>Total:</b>						<b>0</b>	

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**Assembly Information:**

Package Type: Module (Pb-Free)  
Flammability: UL 94-V0  
Moisture Sensitivity (JEDEC J-STD20A) NA  
Date Code Range: 0548 to 0548

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**PACKAGE TESTS**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
SOLDERABILITY (Sn/Pb)	0548	DS1747	JESD22-B102, COND C		3	0	
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C		3	0	
X-RAY	0548	DS1747	MIL-STD-883-2012 : TOP & SIDE VIEW		6	0	
PHYSICAL DIMENSIONS			JESD22-B100		6	0	
MARK PERMANENCY			JESD22-B107		6	0	
LEAD INTEGRITY			JESD22-B105, COND B		6	0	
<b>Total:</b>						<b>0</b>	

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**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0548	DS1747	85 C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
<b>Total:</b>						<b>0</b>	

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**TEMPERATURE CYCLE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0548	DS1747	-40 TO 85C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
<b>Total:</b>						<b>0</b>	

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**TEMPERATURE HUMIDITY BIAS**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	0548	DS1747	85/85, 5.5 VOLTS	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
<b>Total:</b>						<b>0</b>	