



P.O. Box 84
Sherman, TX 75090
6412 Hwy 75 South
Sherman, TX 75090

(903) 868-7111

Texas Instruments Enhanced Plastic Products Reliability Report

(Subject To Attached Disclaimers)

Device Type/Device Family: SN74LVC2G74MDCUTEF
Package Type: 8DCU
Wafer Fabrication Facility: Freising
Assembly/Test Facility: HNT
Compiled: 05/08

Biased Life Test

Test Method: JESD22-A108
Test Condition: 125°C / 1000 hours or equivalent
Sample Size: 18192
Rejects: 1
Activation Energy (eV): 0.7
Equivalent Device Hours: 1.39E+09
Failure Rate (FIT)*: 1.455

*Derated to +55°C with a 60% Confidence Level

Package Related Tests

<u>Description</u>	<u>Condition</u>	<u>Referenced Method</u>	<u>Sample Size</u>	<u>Rejects</u>	
Biased Humidity or HAST	85°C / 85% / 1000 hours or 130°C / 85% / 96 hours	JESD22-A101 JESD22-A110	918	0	*
Autoclave	121°C @ 2 atmospheres absolute for 96 hours	JESD22-A102	770	0	*
Temperature Cycle	-65°C to +150°C non-biased for 500 cycles or equivalent	JESD22-A104	231	0	*
High Temp Storage	150°C / 1,000 hours	JESD22-A103-A	597	0	*

* Preconditioning per JEDEC Std. 22, Method A112/A113

Initial Product Qualification

The subject Enhanced Plastic device, device family, and/or package family have passed Texas Instruments product qualification as follows:

<u>Description</u>	<u>Condition</u>	<u>Referenced Method</u>	<u>Sample Size</u>	
Electrical Characterization	TI Data Sheet	N/A	1 lot(s)/30 Units	
Electrostatic Discharge Sensitivity	HBM	EIA/JESD22-A114	3 Units/voltage	
	MM	EIA/JESD22-A115	3 Units/voltage	
	CDM	JESD22-C101	N/A	
Latch-up	Per Technology	EIA/JESD78	6/0	
Physical Dimensions	TI Data Sheet	EIA/JESD22- B100	/	
Thermal Impedance	Theta-JA on board	EIA/JESD51	Per Pin-Package	
Bias Life Test	125°C / 1000 hours or equivalent	JESD22-A108	630/0	
Biased Humidity or HAST	85°C / 85% / 1000 hours or	JESD22-A101	386/0	*
	130°C / 85% / 96 hours	JESD22-A110		
Autoclave	121°C @ 2 atmospheres absolute for 96 hours	JESD22-A102	#REF!	*
Temperature Cycle	-65°C to +150°C non-biased for 500 cycles or equivalent	JESD22-A104	693/0	*
High Temp Storage	150°C / 1,000 hours	JESD22-A103-A	443/0	*
Solder Heat	260°C for 10 seconds	JESD22-B106	/	
Solderability	Condition A (steam age for 8 hours)	ANSI/J-STD-002-92	/	
Bond Strength	-	ASTM F-459	/	
Moisture Sensitivity	Surface Mount Only	J-STD-020-A	12/0	

* Preconditioning per JEDEC Std. 22, Method A112/A113

Supplemental Device Characteristics

Master Die: RLVC2G74DBGM	Assembly Site: HNT
Wafer Fab: Freising	Pin/Package Type: 8DCU
Fab Process: ASL3C-8	Lead Composition: Cu
Fab Technology: LVC	Lead Finish: NiPdAu
Die Revision: D	Mount Compound: ABLESTIK 8006NS
Passivation: Nitride	Bond: 20.3um (0.8 mils)
Metal 1: TiW/AICu2	Mold Compound: SUMITOMO G600
Metal 2: TiW/AICu2	Die Thickness: 10.5 mils

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