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Texas Instruments High Rel Products Reliability Report

Device Type/Device Family:	SN55114J
Package Type:	16 CDIP
Wafer Fabrication Facility:	Ti Sherman
Assembly/Test Facility:	Millennium Microtech
Compiled:	04/11

Biased Life Test

Test Method:	JESD22-A108
Test Condition:	125°C / 1000 hours & 150° / 500 hours
Sample Size:	10496
Rejects:	3
Activation Energy (eV):	.7
Equivalent Device Hours:	1349E+6
Failure Rate (FIT)*:	3.09
Failure Rate (MTBF-Years):	3.82E+4
	*Derated to +55°C with a 60% Confidence Level

Group B Tests (Weekly by Package Family)

Description	Condition	Referenced Method	Sample Size/Rejects	
B1				
Resistance to Solvents		Mil Std 883 Method 2015	3/0	
B2				*
Bond strength	Test condition F (FC)	Mil Std 883 Method 2011/2019/2027	22/0-3/0	*
B3				
Solderability	Soldering temperature of 245C±5	Mil Std 883 Method 2003	22/0	

Group C Test (Per 3 Month Period by Family)

Description	Condition	Referenced Method	Sample Size/Rejects	
C1				
Steady-state life test	125C/1000Hrs 4.6V	Mil Std 883 Method 1005		
End point electrical			45/0	*

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Group D Tests (Annually by Package Family)

Description	Condition	Referenced Method	Sample Size/Rejects	
D1				
Physical Dimensions		Mil Std 883 Method 2016	15/0	*
D2				
Lead Integrity		Mil Std 883 Method 2004 & 2028	45/0	*
Seal(Fine and Gross)		Mil Std 883 Method 1014	45/0	*
D3				
Thermal Shock	-65°C to +150°C 15 cycles	Mil Std 883 Method 1011		
Temperature Cycle	-65°C to +150°C 100 cycles	Mil Std 883 Method 1010		*
Moisture Resistance		Mil Std 883 Method 1004		
Seal(Fine and Gross)		Mil Std 883 Method 1014		*
Visual examination		Mil Std 883 Method 1004 &1010		
End point electrical			15/0	*
D4				
Mechanical Shock		Mil Std 883 Method 2002		
Variable Freq Vibration		Mil Std 883 Method 2007		*
Constant acceleration		Mil Std 883 Method 2001		
Seal		Mil Std 883 Method 1014		*
Visual Examination		Mil Std 883 Method 2009		
End point electrical			15/0	*
D5				
Salt Atmosphere		Mil Std 883 Method1009		
Seal		Mil Std 883 Method 1014		*
Visual Examination		Mil Std 883 Method 1009	15/0	
D6				
Internal Water Vapor		Mil Std 883 Method1018	3/0	
D7				
Adhesion of Lead Finish		Mil Std 883 Method 2025	15/0	

Supplemental Device Characteristics

Die Revision:	B	Assembly Site:	ALP
Master Die:	S75C114BPS	Package Type:	J
Wafer Fab:	SH	Pin Count:	16
Fab Technology:	Bipolar	Mold Compound:	Ceramic
Fab Process:	J1	Mount Compound:	QMI 2419
Process Code:	N/A	Bond:	1.2 Al
Passivation:	Nitride	Lead Composition:	Alloy 42
Lead Finish:	Eutectic Pb/Sn		

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