

JEDEC QUALIFICATION

Stress-Test-Driven Qualification of Integrated Circuits JESD471

Device qualification requirements						
	stress	abbreviation	specification	MASER	ISO-17025 accreditation	comment
1	High Temperature Operating Life	HTOL	JESD22-A108 JESD85	√	√	
2	Early Life Failure Rate	ELFR	JESD22-A108 JESD74	√	√	
3	Low Temperature Operating Life	LTOL	JESD22-A108	√	√	
4	High Temperature Storage Life	HTSL	JESD22-A103	√	√	
5	Latch-Up	LU	JESD78	√		
6	Electrical Parameter Assessment	ED	datasheet			
7	Human Body Model ESD	ESD-HBM	JS-001	√		
8	Charged Device Model ESD	ESD-CDM	JESD22-C101	√		
9	Accelerated Soft Error Testing	ASER	JESD89-2 JESD89-3			
10	“OR” System Soft Error Testing	SSER	JESD89-1			

Device qualification requirements for nonvolatile memory devices						
	stress	abbreviation	specification	MASER	ISO-17025 accreditation	comment
11	Nonvolatile Memory Uncycled High Temperature Data Retention	UCHTDR	JESD22-A117	√		
12	Nonvolatile Memory Cycling Endurance	NVCE	JESD22-A117	√		
13	Nonvolatile Memory Postcycling High Temperature Data Retention	PCHTDR	JESD22-A117	√		
14	Nonvolatile Memory Low-Temperature Retention and Read Disturb	LTDR	JESD22-A117	√		

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Nonhermetic package qualification test requirements						
	stress	abbreviation	specification	MASER	ISO-17025 accreditation	comment
15	MSL Preconditioning Must be performed prior to: THB, HAST, TC, AC, & UHAST	PC	JESD22-A113	√		
16	High Temperature Storage	HTSL	JESD22-A103	√	√	
17	Temperature Humidity bias (standard 85/85)	THB	JESD22-A101	√	√	
18	Temperature Humidity Bias (Highly Accelerated Temperature and Humidity Stress)	HAST	JESD22-A110	√	√	
19	Temperature Cycling	TC	JESD22-A104	√	√	
20	Unbiased Temperature/Humidity (Unbiased HAST)	UHAST	JESD22-A118	√	√	
21	Unbiased Temperature/Humidity (Autoclave)	AC	JESD22-A102	√		
22	Solder Ball Shear	SBS	JESD22-B117	√	√	
23	Bond Pull Strength	BPS	MIL-STD883 M2011	√	√	
24	Bond Shear	BS	JESD22-B116	√	√	
25	Solderability	SD	JESD22-B102	√		- Dip and Look - SMD reflow
26	Tin Whisker Acceptance	WSR	JESD22-A121 JESD201	√		

Hermetic package qualification test requirements						
	stress	abbreviation	specification	MASER	ISO-17025 accreditation	comment
27	Temperature Cycling	TC	JESD22-A104	√	√	
28	Bond Pull Strength	BPS	MIL-STD883 M2011	√	√	
29	Bond Shear	BS	JESD22-B116	√	√	
30	Solderability	SD	JESD22-B102	√		- Dip and Look - SMD reflow
31	Solder Ball Shear	SBS	JESD22-B117	√	√	
32	Mechanical Shock	MS	JESD22-B104 MIL-STD883 M2002	√		
33	Vibration Variable Frequency	VVF	JESD22-B103 MIL-STD883 M2007	√		
34	Constant Acceleration	CA	MIL-STD883 M2001	√		
35	Gross /Fine Leak	GFL	JESD22-A109 MIL-STD883 M1014	√		
36	External Visual	EV	-	√		
37	Physical Dimensions	PD	JESD22-B100/B108	√		
38	Lead Integrity	LI	-	√		
39	Lid Torque	LT	(MIL-STD-883 M2024)	√		
40	Internal Water Vapor	IWVC	MIL-STD883 M1018	√*		
41	Tin Whisker Acceptance	WSR	JESD22-A121 JESD201	√		