

扬州扬杰电子科技股份有限公司
长期可靠性试验测试参考表

序号	试验项目 (Test Item)	试验条件 (Condition)	参考标准 (Reference)	实验时间 (Time)
1	预处理 (Pre-conditioning)	Performed on surface mount devices (SMDs) prior to TC,AC, H3TRB & IOL/PTC stresses only.	JESD22-A113	1.Temperature Cycling: -40℃ ~60℃, 5cycles; 2.Bake:125℃,24H; 3.Moisture Soak:85±2℃, 85±5%/168h; 4.Reflow*3cycles:260℃,3cycles time 5-60min
2	高温反偏 (High Temperature Reverse Bias)	Tjmax,100%VR	JESD22-A108	1000Hrs
3	间歇老化 (Intermittent Operational Life)	ΔTj≥100℃,2min ON/2min OFF	MIL-STD-750 Method 1037	15000Cycles
4	高温高湿反偏 (High-temperature High-humidity Reverse Bias)	85±2℃, 85%±5%RH, 80%VR (Max=100V)	JESD22-A101	1000Hrs
4 alt	高加速寿命实验 (Highly Accelerated Stress Test)	130±2℃, 85%±5%RH,OR 110±2℃, 85%±5%RH 80%VR (Max=42V)	JESD22-A110	96Hrs OR 264Hrs
5	高温高湿 (High-temperature High-humidity storage test)	85±2℃, 85±5%RH	MIL-STD-202F METHOD-103B	1000Hrs
5-1	物理破坏性分析 (DPA)	After H3TRB,Visual Inspection,X-RAY,De-cap for Weld,De-cap for Die	NA	取H3TRB实验后材料48H内完成
6	温度循环试验 (Temperature Cycling)	150℃ (+15, -0) /15min, -55℃ (+0, -10) /15min	JESD22-A104	1000 cycles
6-1	物理破坏性分析 (DPA)	After TC,Visual Inspection,X-RAY,De-cap for Weld,De-cap for Die	NA	取TC实验后材料48H内完成
7	高温储存 (High Temperature Storage)	150℃ (+10, -0)	JESD22-A103	1000Hrs
8	低温储存 (Low Temperature storage)	-55℃	Specification	1000H
9	高压蒸煮 (Auto-clave)	121℃±2℃,15 psig,100%RH	JESD22-A102	96Hrs
10	易焊性试验 (Solderability)	235℃±5℃	J-STD-002	3'
11	耐焊接热 (Resistance to solder heat)	DIP: 270±5℃ SMD: 260℃(+5,-0)	JESD22-B106 JESD22-A111	DIP: 7' (+2, -0) SMD :10'
12	弯曲牢度 (Bending Strength)	φ0.6mm~0.78mm W=0.5Kg >φ1.20mm W=2Kg	90±5° MIL-STD-750 Method 2036	3Times
13	终端牢度 (Terminal Strength)	φ0.6mm~φ0.78mm W=1Kg >φ1.20mm W=3Kg	MIL-STD-750 Method 2036	15'
14	正向浪涌试验 (Forward Surge Test)	8.3ms,Single,Half-Wave	MIL-STD-750 Method 4066	5Times
15	盐雾试验 (Salt Spray Test)	试验温度: 35±2℃, 氯化钠盐水浓度: 5±0.1%, PH值范围: 6.5-7.2, 沉降率: 1~2ml/80cm².h	GB/T 2423.17-2008	24H
16	静电测试 (ESD)	HBM: 100pF,1500Ω ,GPP:4KV; Others:2KV;	AEC-Q101-001/002	1cycle
17	高温Gate偏压 (High Temperature Gate Bias)	Tjmax,100%Vgs	JESD22-A108	1000Hrs