Surface Mount Technology

Reliability And Testing Standards

FOR SMT/SMD and other similar types					
Environmental tests	ltem	Required Characteristics	Test Method / Condition		
	High temperature Storage test Reference documents: MIL-STD-202G Method 108A	 In no case is there a deformation or change in the appearance. △ L/L ≤ 10% or15% △ Q/Q ≤ 30% △ DCR/DCR ≤ 10% 	Temperature: N±2°C - Time : 96±2 hours Tested not less than 1 hr, or more than 2 hrs at room temperature Temp N°C High temperature Room Temp 0 96H Test Time		
	Low temperature Storage test Reference documents: IEC 68-2-1A 6.1 6.2	1. In no case is there a deformation or change in the appearance 2. $\Delta L/L \le 10\%$ or 15% 3. $\Delta Q/Q \le 30\%$ 4. $\Delta DCR/DCR \le 10\%$	Temperature: M±2°C Time : 96±2 hours Tested not less than 1 hr, or more than 2 hrs at room temperature		
	Humidity test Reference documents: MIL-STD-202G Method 103B	1. In no case is there a deformation or change in the appearance. 2. $\Delta L/L \le 10\%$ or 15% 3. $\Delta Q/Q \le 30\%$ 4. $\Delta DCR/DCR \le 10\%$	Temperature: 40° ±2°C Humidity: 93±3%RH Time : 96±2 hours Tested not less than 1 hr, or more than 2 hrs at room temperature 40°C Temp & Humidity High temperature 93%RH High humidity High humidity 0 96H Test Time		
	Thermal shock test Reference documents: MIL-STD-202G Method 107G	1. In no case is there a deformation or change in the appearance.2. $\Delta L/L \leq 10\%$ or 15%3. $\Delta Q/Q \leq 30\%$ 4. $\Delta DCR/DCR \leq 10\%$ For T: weight $\leq 28g$: 15Min M $28g \leq weight \leq 136g$: 30Min N	First M°C for (t) time, last N°C for (t) time as 1 cycle. Repeat through 20 cycles. Temp N°C Change time<5Min Time Time		

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FOR S	SMT/ SMD and other similar typ	es	
	ltem	Required Characteristics	Test Method / Condition
Physical characteristic tests	Solderability test Reference documents: MIL-STD-202G Method 208H IPC J-STD-002C	Terminals area must have 95% min. Solder coverage	 Dip the pads in flux and then dip them in a solder pot at 260 ±5°C for 5 seconds. Solder: Lead free Flux: Rosin flux
	Heat endurance of Reflow soldering Reference documents: IPC J-STD-020D	1. In no case is there a deformation or change in the appearance. 2. $\Delta L/L \le 10\%$ or 15% 3. $\Delta Q/Q \le 30\%$ 4. $\Delta DCR/DCR \le 10\%$	1. Refer to the next page reflow curve. Repeat 3 times 2. The peak temperature : $260\pm5^{\circ}C$
	Vibration test Reference documents: MIL-STD-202G Method 201A	1. In no case is there a deformation or change in the appearance. 2. $\Delta L/L \leq 10\%$ 3. $\Delta Q/Q \leq 30\%$ 4. $\Delta DCR/DCR \leq 10\%$	Apply frequency 10-55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours(total 6 hours)
	Drop test Reference documents: MIL-STD-202G Method 203C	1. In no case is there a deformation or change in the appearance. 2. Δ L/L \leq 10% 3. Δ Q/Q \leq 30% 4. Δ DCR/DCR \leq 10%	Packaged & Dropped down from 1m with 981m/s (100G) attitude In 1 Angle,1 Ridge and 2 Surfaces orientations.
	Terminal strength push test Reference documents: JIS C 5321:1997	Pulling test: Define: A: sectional area of terminal $0.5mm^2 < A \le 1.2mm^2$ force $\ge 20N$ time:10sec 1.2 mm ² < A force $\ge 40N$ time: 10sec Bending test: Soldering the products on the PCB; after the pulling and bending test, the terminal should not pull off the PCB.	After bending the PCB at the middle point, the deflection shall be 2mm.
	Resistance to solvent test Reference documents: IEC 68-2-45:1993	In no case is there a deformation or change in the appearance or an obliteration of the marking.	Dip parts into an IPA solvent for 5±0.5Min,then dry them at room temperature for 5Min.and brush the marking 10 times.

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NOTE: The above specifications are only for reference; follow the confirmation documents for the specific test conditions.

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