

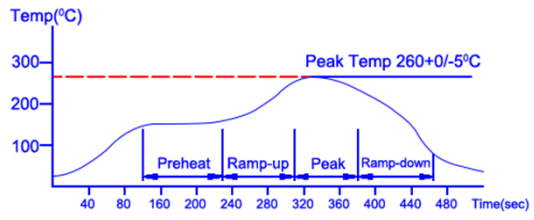
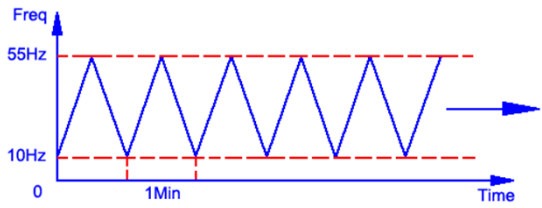
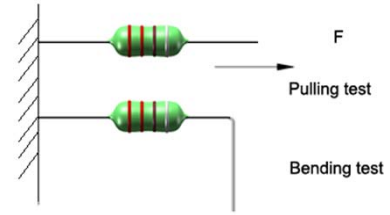
Reliability Performance

Environmental tests

Test Item	Accept Criteria	Test Conditions
Operating Temperature	- 20 °C ~ + 80 °C	
Storage Temperature	- 40 °C ~ + 80 °C	
High Temperature Storage Test Reference documents: MIL-STD-202G Method 108A	1. No. case deformation or change in appearance 2. $\Delta L/L \leq 10\%$ 3. $\Delta Q/Q \leq 30\%$ 4. $\Delta RDC/RDC \leq 10\%$ N= High temperature set	Temperature : $80^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Test time : 96 ± 2 hrs Tested not less than 1 hour, nor more than 2 hours at room mperature
Low Temperature Storage Test Reference documents: IEC 68-2-1A	1. No. case deformation or change in appearance 2. $\Delta L/L \leq 10\%$ or 15% 3. $\Delta Q/Q \leq 30\%$ 4. $\Delta RDC/RDC \leq 10\%$ M= Low temperature set	Temperature : $-20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Test time : 96 ± 2 hrs Tested not less than 1 hour, nor more than 2 hours at room temperature
Humidity Test Reference documents: MIL-STD-202G Method 103B	1. No. case deformation or change in appearance 2. $\Delta L/L \leq 10\%$ 3. $\Delta Q/Q \leq 30\%$ 4. $\Delta RDC/RDC \leq 10\%$	Temperature : $40 \pm 2^{\circ}\text{C}$, Humidity : $93\% \pm 3\%$ RH Test time : 96 ± 2 hrs Tested not less than 1 hour, nor more than 2 hours at room temperature
Thermal shock Test Reference documents: MIL-STD-202G Method 107G	1. No. case deformation or change in appearance 2. $\Delta L/L \leq 10\%$ or 15% 3. $\Delta Q/Q \leq 30\%$ 4. $\Delta RDC/RDC \leq 10\%$ For T: $\text{weig} \leq 28\text{g}$: 15Min; $28\text{g} \leq \text{weight} \leq 136\text{g}$: 30Min M= Low temperature set N= High temperature set	First -40°C for time, last 80°C for T time as 1 cycle. Go through 20 cycle.

Reliability Performance

Physical Characteristic tests

Test Item	Accept Criteria	Test Conditions
Solderability Test Reference documents: MIL-STD-202G Method 208H IPC J-STD-002D	Terminals area must have 95% min. solder coverage	1. Dip pads in flux then dip in pot at $245\pm 5^{\circ}\text{C}$ for 5 seconds 2. Solder : lead free 3. Flux : rosin flux
Heat endurance of Reflow soldering Reference documents: MIL-STD-202G Method 210F	1. No. case deformation or change in appearance 2. $\Delta L/L \leq 10\%$ 3. $\Delta Q/Q \leq 30\%$ 4. $\Delta RDC/RDC \leq 10\%$	1. Refer reflow curve Go through 2 time 2. The peak temperature : $260+0/-5^{\circ}\text{C}$ 
Vibration Test Reference documents: MIL-STD-202G Method 201A	1. No. case deformation or change in appearance 2. $\Delta L/L \leq 10\%$ 3. $\Delta Q/Q \leq 30\%$ 4. $\Delta RDC/RDC \leq 10\%$	Apply frequency 10~55~10Hz 1.5mm amplitude in each of perpendicular direction for 2 hours. (total 6 hours) 
Drop test Reference documents: MIL-STD-202G Method 203C	1. No. case deformation or change in appearance 2. $\Delta L/L \leq 10\%$ or 15% 3. $\Delta Q/Q \leq 30\%$ 4. $\Delta RDC/RDC \leq 10\%$	Packaged & Drop down form 1m with 981m/s^2 (100G) attitude In 1 ange 1 ridges & 2 surfaces orientations
Terminal strength Reference documents: IEC 65-2-21:1992 Test A & C	1. Terminal should not come out 2. Meet require test condition A & C For: Wire-leaded components - Test A & C For: Others leaded components - Test A	A. Pull Force:0.45kg; the force shall be applied gradually to the terminal and then maintained for 10 seconds. C. Wire-lead bend:0.23kg,The rate of bending shall be approximately 3 seconds per bend in each direction. The load shall be suspended at a point within 1/4 inch from the free end of the terminal. 
Resistance to solvent test Reference documents: IEC 68-2-45:1993	No case deformation or change in appearance, or obliteration of marking	To dip parts into IPA solvent for $5\pm 0.5\text{Min}$, then drying them at room temp for 5Min, at last, to brushing making 10 times.

Reliability Performance

Electrical Characteristic tests

Test Item	Accept Criteria	Test Conditions
Electrical Characteristic tests major products	Refer to catalogue of specific products	Refer to catalogue of specific products
Overload test Reference documents: JIS C5311-6.13	1. During the test no smoke, no peculiar, smell, no fire 2. The Characteristic is normal after test	Apply twice as rated current for 5 minutes
Voltage resistance test Reference documents: MIL-STD-202G Method 301	1. During the test no breakdown 2. The Characteristic is normal after test	1. For parts with two coils 2. DC 1000V, Current : 1mA, Time : 1Min.
<p>A test is made under the conditions mentioned above. And it is left 1 hours in the normal temperature and humidity. After that, no mechanical and electrical defeat should be found out. The reflow condition is according to the machine used by our company.</p>		