

■ INSULATION RESISTANCE

IEC 60115-1, 4.6: in V-block for 60 seconds, the test resistance should be higher than 10,000 M Ohm.

■ DIELECTRIC WITHSTANDING VOLTAGE

IEC 60115-1, 4.7: Place resistors in V-block for 60 seconds, no breakdown or flashover.

■ TEMPERATURE COEFFICIENT TEST

IEC 60115-1, 4.8: Test of resistors at room temperature and 60°C or 100°C on request above room temperature. Then measure the resistance. The Temperature Coefficient is calculated by the following equation and its value should be within the range requested.

$$\text{Resistor Temperature Coefficient} = \frac{R - R_0}{R_0} \times \frac{1}{t - t_0} \times 10^6$$

R = Resistance value under the testing temperature
R₀ = Resistance value at the room temperature
t = the 2nd testing temperature
t₀ = Room temperature

■ SHORT TIME OVERLOAD TEST

IEC 60115-1, 4.13: At 2.5 times rated voltage or 2 times the maximum working voltage, whichever is lower for 5 seconds, the resistor should be free from defects. The change of the resistance value should be within ±(0.10%+0.05Ω) as compared with the value before the test.

■ SOLDERABILITY

IEC 60115-1, 4.17: 235±5°C for 3±0.5 seconds, there are at least 95% solder coverage on the termination.

■ RESISTANCE TO SOLDERING HEAT:

IEC 60115-1, 4.18: 260±3°C for 10±1 seconds, immersed to a point 3±0.5mm from the body. The change of the resistance value should be within ±(0.15%+0.05 Ω) as compared with the value before the test.

■ CLIMATIC SEQUENCE

IEC 60115-1, 4.19: -55°C to Room Temp. to +155°C to Room Temperature (5 cycles).
The change of the resistance shall be within ±(0.50%+0.05 Ω) as compared with the value before the test.

■ DAMP HEAT STEADY STATE

IEC 60115-1, 4.24: 40±2°C, 90-95% RH for 56 days, loaded with 0.1 times RCWV or the maximum working voltage, whichever is lower. The change of the resistance value should be within ±(0.50%+0.05 Ω) for below 1% tolerance resistors and ±(2.5%+0.05 Ω) for 1% and higher tolerance resistors, small size resistors, and tiny size resistors, as compared to the value before the test.

■ LOAD LIFE TEST

IEC 60115-1, 4.25: 70±2°C at RCWV or the maximum working voltage, whichever is lower for 1,000+48/-0 Hr. (1.5Hr. on, 0.5Hr. off). The resistors shall be arranged to prevent the temperature of other devices from affecting the resistors being tested. The change of the resistance value should be within ±(0.50%+0.05 Ω) for below 1% tolerance resistors and ±(2.5%+0.05 Ω) for 1% and higher tolerance resistors, small size resistors, and tiny size resistors, as compared with the value before the test.

■ ACCIDENTAL OVERLOAD TEST

IEC 60115-1, 4.26: Four times RCWV for 1 minute, No evidence of flaming or arcing.

■ RESISTANCE TO SOLVENT

IEC 60115-1, 4.30: IPA for 5±0.5 Min. with ultrasonic.
No deterioration of coating and color code occurred.