CERAMIC ENCASED VERTICAL MOUNT WIREWOUND RESISTOR - SCV

FEATURES

- High Power dissipation in small volume
- High pulse load handling capabilities
- Stand-up mounting, saving space in PCB
- High heat and moisture resistance
- Direct Mounting On Printed Circuit board
- High Power to size ratio
- Special inorganic potting compound and ceramic case provide high thermal conductivity in a fireproof package

QUICK REFERENCE DATA

DESCRIPTION	SCV03	SCV05	SCV10
Maximum dissipation at 70 °C (Pn)	3 W	5 W	10 W
Resistance range [1]	0.01 – 150 K	0.01 – 150 K	0.01- 8 K
Tolerance and series[2]	± 5%, E24		
Limiting voltage	√ Pn × R		
Maximum permissible Body temperature	300 ℃		
Temperature coefficient[3]	SCV: R < 10 Ω: 0 to 60 ppm/℃ R ≥ 10 Ω: - 80 ppm/℃		
Operating temperature	- 40 ℃ to + 200 ℃		
Insulation voltage	> 2000 V		
Stability ΔR/Rmax after:			
Load	± 5.0% + 0.1 Ω		
Climate	± 3.0% + 0.1 Ω		
Short time overload	± 2.0% + 0.1 Ω		

(1) Special resistive values available on request
(2) Tolerances; 1%, 3% and 10% available on request
(3) Temperature coefficient, 20, 30, 50 and 90ppm/°C, available on request

TECHNOLOGY

SCV: The resistor element is a resistive wire, which is wound in a ceramic rod. Metal caps are pressed over the rod. The end of resistive wire and the leads are connected to the caps by welding. The resistor body and lead ends are housed within a rectangular ceramic case which is non-flammable, will not melt even at high overloads and is resistant to most commonly used cleaning solvents, in accordance IEC 60 068-2-45.

MECHANICAL DATA

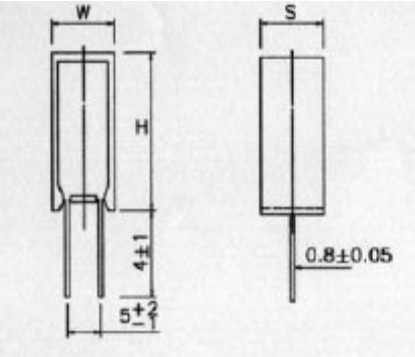


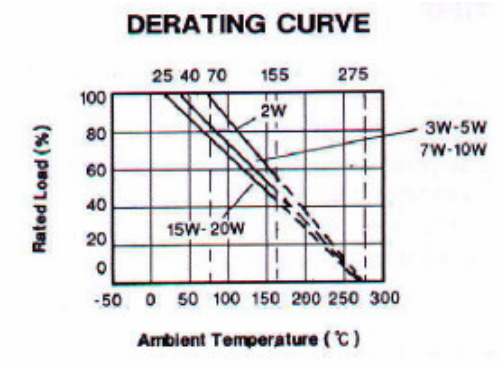
Table 1

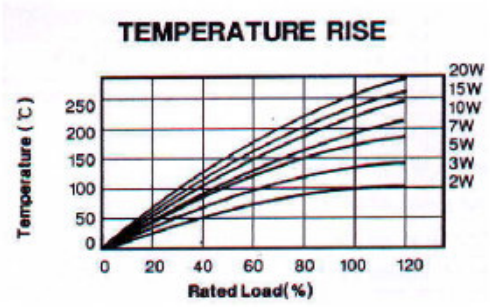
TYPE	W ± 1.0	S ± 1.0	H ± 1.5
SCV03	12	7	25
SCV05	13	8	25
SCV10	13	9	38

Dimensions in mm

ELECTRICAL CHARACTERISTICS

DERATING





TESTS AND REQUIREMENTS

Essentially all tests and requirements present in table below follow the schedule of IEC standard publication 60115-1, 60115-4 and 60068.

TEST	PROCEDURE	REQUIREMENTS
Insulation resistance	500 V (DC); during 1 minute V-block method.	Rins min 100 M Ω
Voltage proof on insulation	1000 V (RMS); during 1 Minute V-block method	No breakdown or flashover
Temperature Coefficient	Between -55 °C at +275 °C: R ≤ 10 Ω R ≥10 Ω	0 to 60 ppm/°C 80 ppm/°C
Short time overload	Dissipation 10 x Pn; 5 s	ΔR/Rmax: ±2% +0.05Ω
Robustness of terminations: Tensile all samples Bending half number of samples Torsion other half number of samples	 load 10N; 10 s load 5N; 4 x 90° 3 x 360° in opposite directions	 No Visible Damage ΔR/Rmax: ±2% +0.05Ω
Solderability (after ageing)	16h at 155 °C, leads immersed in flux 600, leads immersed 2 mm for 2 ± 0.5 s in a solder bath at 235 ±5 °C	Good tinning; No damage ΔR/Rmax: ±0.5% +0.05Ω
Resistance to Soldering heat	Thermal shock: 3s, 350 °C; 6mm from body	ΔR/Rmax: ±4% +0.05Ω
Rapid change of temperature	30 minutes at - 55 °C and 30 minutes at + 275 °C; 5 cycles	No visual damage ΔR/Rmax: ±5% +0.05Ω
Climatic sequence: Dry heat Damp heat (accelerated) 1st cycle Cold Damp heat (accel) remaining cycles	 16h, 275 °C 24h; 25 °C to 55 °C; 90% to 100% R.H. 2h; - 65 °C 6 days; 55 °C; 90% to 98% R.H	 ΔR/Rmax: ±3% +0.05Ω
Damp heat (steady state)	56 days; 40 °C; 90 to 95% RH loaded with 0.01 Pn	ΔR/Rmax: ±5% +0.05Ω
Endurance 40 °C	1000 hours load with Pn or Vmax: 1.5h ON and 0.5h OFF	no damage ΔR/Rmax:±5% +0.1Ω