

CEMENT RESISTORS

SQP SERIES

Feature

- Small size and low cost.
- Super heat dissipation, instant overload capability.
- Instant overload capability
- Standard tolerance: $\pm 1\%$, $\pm 5\%$
- Standard Value: E24 series as range below
- For high resistance values, metal oxide film rods, will be utilized to replace the wire winding core.
- .Operating temperature : $-55^{\circ}\text{C} \sim +275^{\circ}\text{C}$

Material

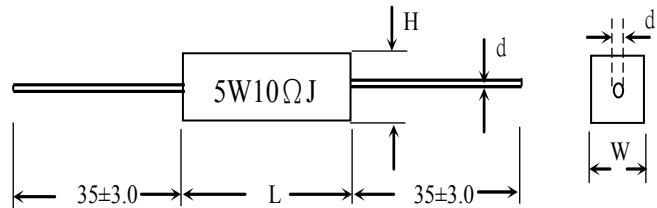
Element: Alloy Resistance Wire

Core: High purity ceramic Al_2O_3

Termination: Standard solder-plated copper lead

Case: Ceramic bathtub

Dimension



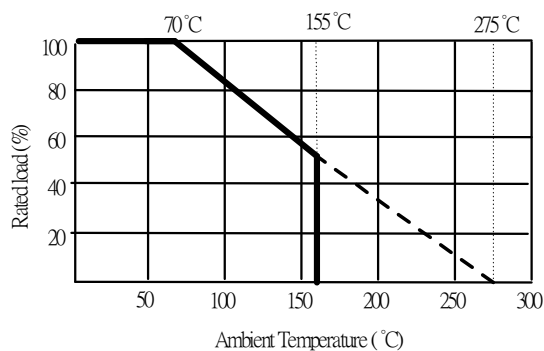
General Specification

TYPE	DIMENSION(mm)				POWER RATING	MAXIMUM WORKING VOLTAGE	MAXIMUM OVERLOD VOLTAGE	RESISTANCE RANGE	
	L	D	H	d ± 0.05				WIREWOUND	MOR RODS
SQP20	18.0	6.5	6.5	0.80	2W	350V	700V	0.1 Ω -100 Ω	101 Ω -1M Ω
SQP30	22.0	8.0	8.0	0.80	3W	500V	1000V	0.1 Ω -100 Ω	101 Ω -1M Ω
SQP50	22.0	10.0	9.5	0.80	5W	750V	1500V	0.1 Ω -100 Ω	101 Ω -1M Ω
SQP70	35.0	10.0	9.5	0.80	7W	1000V	1500V	0.5 Ω -500 Ω	501 Ω -47K Ω
SQP100	48.0	10.0	9.5	0.80	10W	1000V	1500V	0.5 Ω -1K Ω	501 Ω -47K Ω
SQP150	48.5	12.5	11.5	0.80	15W	1000V	1500V	0.5 Ω -1K Ω	501 Ω -47K Ω
SQP200	60.0	15.0	13.5	0.80	20W	1000V	1500V	0.5 Ω -1K Ω	501 Ω -47K Ω
SQP250	60.0	15.0	13.5	0.80	25W	1000V	1500V	0.1 Ω -150 Ω	501 Ω -47K Ω

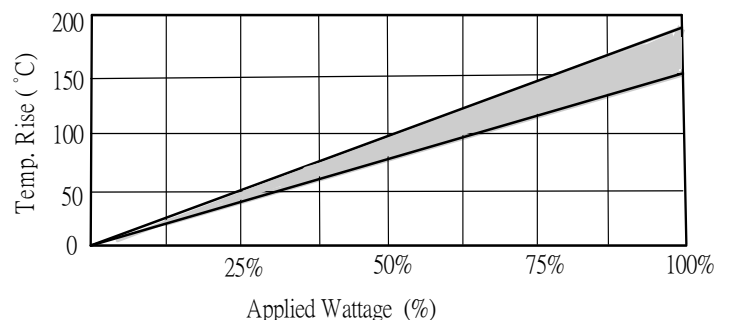
* Maximum Working Voltage determined by $E = \sqrt{P \cdot R}$, where E should not exceed value listed in column above.

**Maximum Overload Voltage equals to 2.5XE, but should not exceed value listed in column above.

Derating Curve



Temperature Rise



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Characteristics

Item	Requirement	Test Method
Short Time Overload	$\pm 2\% + 0.05 \Omega$	JIS-C-5201-1 5.5 RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance	$> 1000M \Omega$	JIS-C-5201-1 5.6 Apply 100VDC for 1 minute
Endurance	$\pm 5\% + 0.05 \Omega$	JIS-C-5201-1 7.10 70 $\pm 2^{\circ}\text{C}$, Max. RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5hrs "OFF"
Damp Heat with Load	$\pm 5\% + 0.05 \Omega$	JIS-C-5201-1 7.9 40 $\pm 2^{\circ}\text{C}$, 90~95% R.H. RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5hrs "OFF"
Solderability	90% min. Coverage	JIS-C-5201-1 6.5 245 $\pm 5^{\circ}\text{C}$ for 3 seconds
Dielectric Withstanding Voltage	1000V	JIS-C-5201-1 5.7 Apply Max. Overload Voltage for 1 minute
Temperature Coefficient	$\pm 300\text{PPM}/^{\circ}\text{C}$	Resistance value at room temperature and room Temperature+100 $^{\circ}\text{C}$
Pulse Overload	$\pm 1\% + 0.05 \Omega$	JIS-C-5201-1 5.8 4 times RCWV for 10000 cycles with 1 second "ON" and 25 seconds "OFF"
Resistance To Solvent	No deterioration of coatings and markings	JIS-C-5201-1 6.9 Trichroethane for 1 min. with ultrasonic
Terminal Strength	Tensile: $\geq 2.5 \text{ kg}$	Direct Load for 10 seconds In the direction off the terminal leads
Shelf Life	$\Delta R = \pm 0.1\%$	12 months at room temperature 25 $\pm 3^{\circ}\text{C}$, 80%RH Max.

***Storage Temperature : 25 $\pm 3^{\circ}\text{C}$; Humidity < 80%RH**

Part Numbering

<u>SQP50</u>	<u>J</u>	<u>B</u>	-	<u>100R</u>
↓	↓	↓		↓
Type/Power	Tol.	Package		Resistance
SQP50	F= $\pm 1\%$	B=Bulk		0R1 = 0.1 Ω
SQP70	J= $\pm 5\%$			10R = 10 Ω
SQP100				1K2R = 1.2K Ω
SQP150				
SQP200				
SQP250				