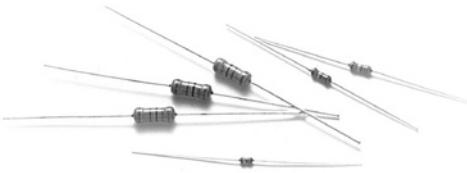


Wirewound Resistors

High Power Type

Normal Style [PNP V Series]



FEATURES

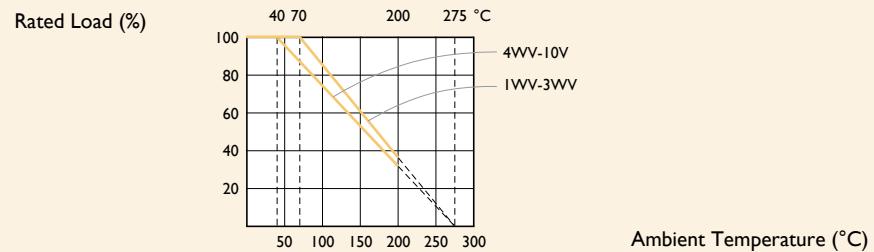
Power Rating	1W, 3W, 4W, 5W, 7W, 10W
Resistance Tolerance	$\pm 1\%$, $\pm 5\%$
T.C.R.	$\pm 100\text{ppm}/^\circ\text{C}$, $\pm 300\text{ppm}/^\circ\text{C}$
Flameproof Multi-layer Coating Meets	UL-94V-0
Flameproof Feature Meets Overload Test	UL-1412

INTRODUCTION

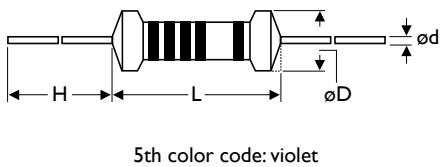
The resistor element is a resistive wire which is wound in a single layer on a ceramic rod, with tinned connecting wires of electrolytic copper welded to the end-caps. The ends of the resistive wire and the leads are connected to the caps by welding. The resistors are coated with layers of green color flame-proof lacquer. High power in small package. The 5th color band is violet to represent PNPV series.

DERATING CURVE

For resistors operated in ambient temperatures above 40°C, power rating must be derated in accordance with the curve below.



DIMENSIONS



Unit: mm

STYLE	DIMENSION			
	L	øD	H	ød
PNP1WV	10±1.0	4.3±0.5	26±2.0	0.8±0.05
PNP3WV	13±1.0	5.5±0.5	34±2.0	0.8±0.05
PNP4WV	17±1.0	5.5±0.5	32±2.0	0.8±0.05
PNP5WV	17±1.0	7.5±0.5	32±2.0	0.8±0.05
PNP7WV	25±1.0	7.5±0.5	38±2.0	0.8±0.05
PNP10V	44±1.0	8.0±0.5	28±2.0	0.8±0.05

Note:

ELECTRICAL CHARACTERISTICS

STYLE	PNP1WV	PNP3WV	PNP4WV	PNP5WV	PNP7WV	PNP10V
Power Rating at 40°C			4W	5W	7W	10W
Power Rating at 70°C	1W	3W				
Voltage Proof	300V					
Resistance Range ($\pm 1\%$)	0.1 Ω - 1K Ω	0.1 Ω - 2.8K Ω	0.1 Ω - 4.3K Ω	0.1 Ω - 8.2K Ω	0.1 Ω - 10K Ω	0.1 Ω - 17K Ω
Resistance Range ($\pm 5\%$)	0.03 Ω - 1K Ω	0.015 Ω - 2.8K Ω	0.02 Ω - 4.3K Ω	0.025 Ω - 8.2K Ω	0.03 Ω - 10K Ω	0.1 Ω - 17K Ω
Operating Temp. Range	-40°C to +200°C					
Temperature Coefficient	$\pm 300\text{ppm}/^{\circ}\text{C}$					

Note: Special value is available on request

ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD	APPRAISE
Short Time Overload	IEC 60115-1 4.13	$\pm 2.0\%+0.05 \Omega$
Voltage Proof	IEC 60115-1 4.7	By type
Temperature Coefficient	IEC 60115-1 4.8	By type
Insulation Resistance	IEC 60115-1 4.6	$>100M \Omega$
Solderability	IEC 60115-1 4.17	95% Min. coverage
Solvent Resistance of Marking	IEC 60115-1 4.30	No deterioration of coatings and markings
Robustness of Terminations	IEC 60115-1 4.16	$\geq 2.5\text{kg}$ (24.5N)
Damp Heat Steady State	IEC 60115-1 4.24	$\pm 5.0\%+0.05 \Omega$
Endurance at 70°C	IEC 60115-1 4.25	$\pm 5.0\%+0.05 \Omega$
Temperature Cycling	IEC 60115-1 4.19	$\pm 1.0\%+0.05 \Omega$
Resistance to Soldering Heat	IEC 60115-1 4.18	$\pm 1.0\%+0.05 \Omega$
Accidental Overload Test	IEC 60115-1 4.26	No evidence of flaming or arcing

Note: Rated Continuous Working Voltage (RCWV) = $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$