

# Vitreous Enamel Coated Wirewound Resistors

## Vitreous Enamel Coated Power High Energy Wirewound Resistors

### ▶ Preview

The KNP-VE Series of vitreous enamel coated power resistors from Token offers a cost-competitive alternative over the 2.5W-12W power range. The range is available with resistance values of 1Ω to 39KΩ in power ratings of 2.5W, 3W, 5W, 6W, 8W, 9W and 12W (at 25°C), and with body sizes that match the industry standards.

Vitreous enamelled resistors were introduced at a time when alternative directly applied coatings could not withstand the thermal stresses caused by the resistors' high body temperatures.

Token offers the durability of a lead free conformal vitreous enamel coating, permits the KNP-VE Series resistors to maintain a hard coating while operating at high temperatures. Mechanical integrity is enhanced by the all-welded construction.

Power KNP-VE Wirewound Series are ideal for computer, communications and industrial applications in which cost, quality, and reliability are key considerations. The KNP-VE series is RoHS compliant and Ayrton Perry noninductive windings are available on request.

To address your need for technical and economic success in a timely manner, our custom solutions are the best choice.

Contact us with your specific needs.

### ▶ Applications

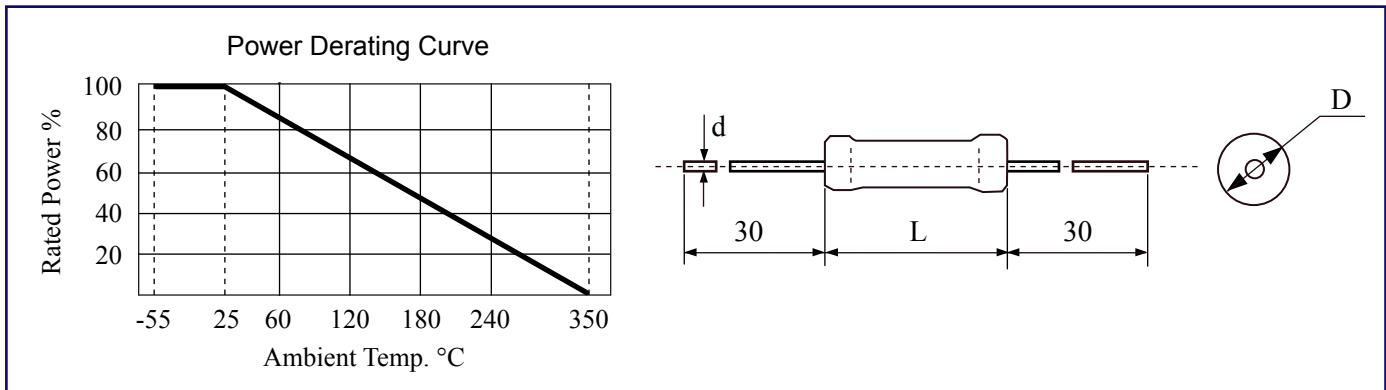
- Power tools
- Consumer applications
- Power supplies, Welders
- High voltage applications
- High-switching applications
- Home entertainment, appliances

### ▶ Features

- Excellent pulse load capability
- Axial leads, All-welded construction
- A wide range of power ratings 2.5W to 12W
- A wide resistance range 1Ω to 39KΩ, Tolerance ±5%, ±10%
- Products with Pb-free Terminations and RoHS compliant
- Rugged vitreous enamel coating withstands high humidity and temperature cycling
- Durable construction, recommended for industrial applications where reliability is paramount



## Technical Specifications



Type	Rated Watts (W)	Resistance Range (Ω)	Limiting Voltage (V)	Tolerance	Temperature Coefficient (PPM/°C)	Dimensions (mm) (Max)		
						L	ΦD	Φd
KNP-VE-2.5	2.5	1 ~ 1K	100	±5% ±10%	±250 ±400	12.7	5.6	0.8
KNP-VE-3	3	1 ~ 1K	120			14.0	7.0	
KNP-VE-5	5	1 ~ 3.6K	160			23.0	7.0	
KNP-VE-6	6	1 ~ 6.8K	200			22.2	8.0	
KNP-VE-8	8	1 ~ 20K	400			33.9	8.0	
KNP-VE-9	9	1 ~ 27K	500			38.1	8.0	1.0
KNP-VE-12	12	1 ~ 39K	750			53.5	8.0	

## Performance

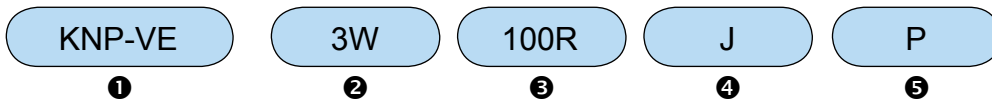
Test Items	Condition	Specifications
Insulation Resistance	500V	20MΩ
Short Time Overload	2.5 times of rated voltage 5 sec.	$\Delta R \leq \pm(2\%R + 0.05\Omega)$
Rated Load	Rated wattage 30 min.	$\Delta R \leq \pm(1\%R + 0.05\Omega)$
Dielectric Withstanding Voltage	500V AC 1 min	$\Delta R \leq \pm(1\%R + 0.05\Omega)$
Temp. Cycle	-20°C ~ 85°C 5 cycles	$\Delta R \leq \pm(1\%R + 0.05\Omega)$
Load Life	70°C on ~ off cycle 1000 hrs.	$\Delta R \leq \pm(5\%R + 0.05\Omega)$
Moisture-Proof Load Life	40°C 95% RH on~off cycle 500 hrs.	$\Delta R \leq \pm(3\%R + 0.05\Omega)$
Soldering After Resistance	350°C for 3 sec	$\Delta R \leq \pm(0.5\%R + 0.05\Omega)$
Incombustibility	16 times of rated wattage for 5 min.	Not flamed

## ▶ Application Notes

### Wire-wound Resistors Application Notes:

- When being used in AC circuits, some wirewound structures give inductance ingredients or parasitic capacity, so they may cause unusual phenomena such as oscillations etc. Quorum deviations of other components should be carefully taken into account for use.
- Application and Placement: Wire wound resistors use different gauges of wire as resistance elements. Sometimes the gauge is extremely thin (finer than a strand of human hair) and very susceptible to breakage in environments containing salts, ash, dust and corrosives. Avoid utilization in such environments.
- Do not install in dusty areas because the accumulation will cause shorts and poor conductance.

## ▶ How to Order



❶ Part Number: KNP-VE

❷ Rated Power (W)

❸ Resistance Value ( $\Omega$ )

Code	Resistance Value
1R	1 $\Omega$
100R	100 $\Omega$
1K	1000 $\Omega$

❹ Resistance Tolerance (%)

Code	Resistance Tolerance
J	$\pm 5\%$
K	$\pm 10\%$

❺ Package

Code	Package
TB	Taping Box
P	Bulk

*Back to 1st Page - Wirewound Resistors (KNP-VE)*