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(KNP)
Wire Wound Resistors

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Product Introduction

Wire Wound Resistors are Getting Economical Solution to Board Population.

Features :

- Low cost
- Excellent pulse load capability
- A wide resistance range 0.1 Ω to 3 kΩ
- Operating temperature range -55℃ ~ 155℃
- A wide range of power ratings 0.5W to 12.5W
- Products with Pb-free Terminations and RoHS compliant.

Applications :

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

Token has launched its commercial wire wound resistor yet with the introduction of the various package sizes. Matching price with size to provide an economical solution to board population, Token's wire wound resistors are available in 15 standard size powers ranging from 0.5W to 12.5W, all at 1%, 2%, and 5% tolerance.

The KNP series has been designed to give enhanced pulse handling capability and increased flameproof protection. The series is RoHS compliant with Pb-free terminations, and KNP wire-wound series can also be supplied with radial, goalpost or lancet preformed leads.

The KNP drive to miniaturize is as widespread within industrial process control and circuit break products as it is in the consumer sector. These resistors are ideal for high reliability industrial application as the technology removes the excessive temperature risk.

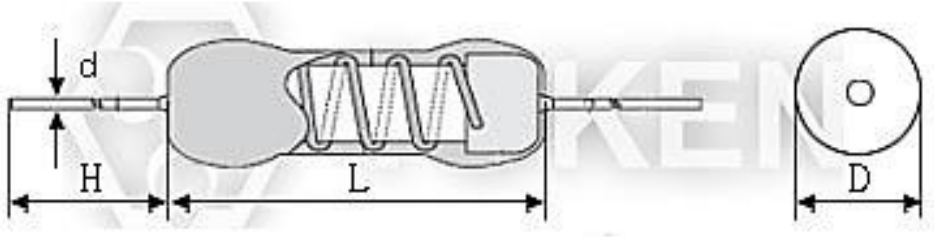
Produced on a high purity ceramic substrate, the resistor is assembled with interference-fit end caps to which are welded terminations. The resistive element is wound on the substrate and welded to the caps. Flameproof silicone cement coating is applied prior to marking with indelible link. The components are then lead formed, if required.

To address your need for technical and economic success in a timely manner, our custom solutions are available. Contact us with your specific needs. For more information, please link to Token official website "General Purpose Resistors".

General Specifications

General Specifications (KNP)

Type		Rated Watts	Dimensions (mm)				Resistance Range (Ω)	Tolerance
			D ± 0.5	L ± 1	H ± 3	d ± 0.05		
KNP	KNP-50	1/2W	4	9.0	26	0.50~0.55	0.1-50 Ω	± 1% ± 2% ± 5%
	KNP-100	1W	4	9.0	26	0.50~0.55	0.1-50 Ω	
	KNP-100B	1W	4.5	11.5	26	0.75~0.80	0.1-100 Ω	
	KNP-200	2W	4.5	11.5	26	0.75~0.80	0.1-100 Ω	
	KNP-200B	2W	5.5	15.5	35	0.75~0.80	0.1-200 Ω	
	KNP-300	3W	5.5	15.5	35	0.75~0.80	0.1-200 Ω	
	KNP-400	4W	6.5	17.5	35	0.75~0.80	0.1-300 Ω	
	KNP-500	5W	6.5	17.5	35	0.75~0.80	0.1-400 Ω	
	KNP-500B	5W	8.5	24.5	38	0.75~0.80	0.1-400 Ω	
	KNP-600	6W	8.5	24.5	38	0.75~0.80	0.1-1K Ω	
	KNP-700	7W	8.5	24.5	38	0.75~0.80	0.1-1.5K Ω	
	KNP-800	8W	8.5	42	38	0.75~0.80	0.1-2K Ω	
	KNP-1000	10W	8.5	42	38	0.75~0.80	0.1-2K Ω	
	KNP-1000B	10W	8.5	54	38	0.75~0.80	0.1-3K Ω	
	KNP-1250	12.5W	8.5	54	38	0.75~0.80	0.1-3K Ω	

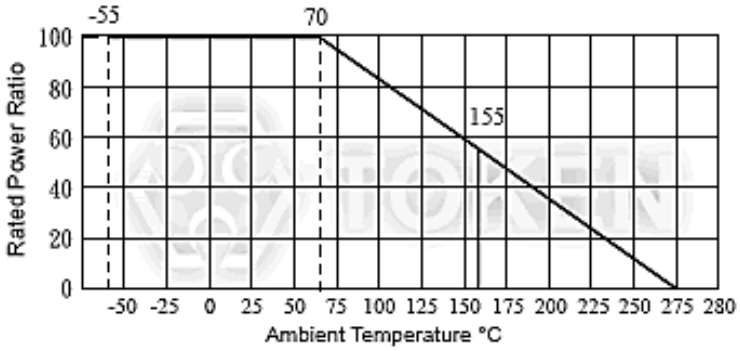


Wire Wound (KNP) Dimensions (Unit: mm)

Electrical Performance

Electrical Performance (KNP)

TEST ITEMS	CONDITION	SPEC
Operating Temperature Range	-55℃ ~ 275℃(0W)	
Resistance Temp. Coeff.	Room temperature/100℃ up	± 300 PPM / ℃
Short Time Overload	10 times of rated wattage for 5 sec.	± 2 %
Rated Load	Rated wattage 30 min.	± 1 %
Voltage Withstanding	500VAC 1 min	± 1 %
Temperature Cycling	-20℃ ~ 85℃ 5 cycles	± 1 %
Load Life	70℃ on ~ off cycle 1000 hrs.	± 5 %
Moisture-Proof Load Life	40℃ 95% RH on ~ off cycle 500 hrs.	± 3 %
Incombustibility	16 times of rated wattage for 5 min	not flamed



(KNP) Power derating curve

Application Notes

Application Notes of Wire wound Resistors (KNP)

- 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.

Order Codes

Order Codes (KNP)

KNP-100	1W	10R	J	P
Part Number	Rated Power (W)	Resistance Value (Ω)	Resistance Tolerance (%)	Package
KNP		0R1 0.1Ω 1R 1RΩ 10R 10RΩ 100R 100RΩ 1K 1KΩ	F ±1% G ±2% J ±5%	P Bulk TB Taping Box

General Information

General Purpose Resistors with Customized Service

Token Electronics is expanding business to include a broad range of General Purpose Resistor products designed for high volume applications. This expanded range of commercial resistor presents a more comprehensive product offering for Customer Experience Management (CEM) and other high volume customers that require quality products at competitive pricing.

Backed by the same customer service, technical support and quality assurance that Token has always provided, these new commercial products enable you the opportunity to source a wider range of resistors from a trusted supplier.

General Use

When an ambient temperature exceeds a rated ambient temperature, resistor shall be applied on the derating curve by derating the load power. General purpose resistor under overloads is not combustion resistant and is likely to emit, flame, gas, smoke, red heat, etc. Flame retardant resistor generally emits smoke and red heat in a certain power and over but do not emit fire or flame.

When resistors are shielded or coated with resin etc., stress from the storage heat and the resins are applied. So, performance and reliability should be checked well before use.

When a voltage higher than rated is applied in a short time (single pulse, repeated pulses, surge, etc.), it does not necessarily ensure safety that an effective wattage is not higher than a rated wattage. Then consult with us with your specified pulse wave shape. Resistors shall be used in a condition causing no dew condensation.

Keep temperature from rising by choosing resistor with a higher rated capacity; do not use a component having the exact load value required. For considerations of safety in extended period applications, the rating should be more than four times higher than the actual wattage involved, but never use resistors at less than 25% of its rated power.

In applications where resistors are subject to intermittent current surges and spikes, be sure in advance that the components selected are capable of withstanding brief durations of increased load.

Do not exceed the recommended rated load. Resistor must use within the rated voltage range to prevent the shortening of service life and/or failure of the wound resistance elements.

Minimum load: Resistor must be utilized at 1/10 or more of the rated voltage to prevent poor conductance due to oxidation build-up. For basic particulars for cautions, refer to EIAJ Technical Report RCR-2121 "Guidance for care note on fixed-resistors".