

Non-inductive Wirewound Resistors

Non-inductive Wirewound Resistors Improves Inductance for High Frequency Applications

▶ Preview

Token Electronics has introduced a non-inductive version KNPN Series of conformal coated, leaded wire-wound resistors.

The KNPN series offers the expected performance of a wire wound resistor with the added characteristic of vastly improved inductance, making it suitable for high-switching applications.

Wirewound technology has long been known as a leading technology for power resistor needs though it is inherently inductive. Known as Ayrton Perry winding, a non-inductively wound wirewound has one winding in one direction and one in the other direction.

By using a non-inductively wound version this greatly reduces the inductance of any given resistor size and value combination; however, it does not completely eliminate the inductance.

This non-inductive winding is available in all standard KNPN sizes from 0.5 watts up to 6 watts with options 1%, 2% and 5% tolerance. The KNPN series is RoHS compliant and also can be supplied with radial, goalpost or lancet preformed leads.

To address your need for technical and economic success in a timely manner, our custom solutions are available. Contact us with your specific needs.

▶ Applications

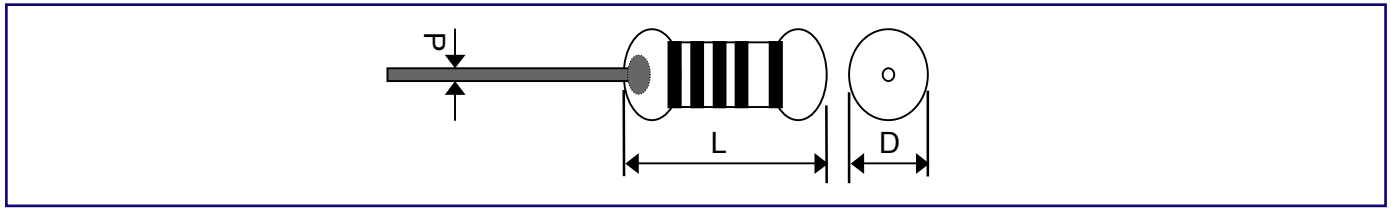
- Power tools
- Current sensing
- Consumer applications
- Power supplies, Welders
- High voltage applications
- High-switching applications
- Home entertainment, appliances

▶ Features

- Low cost
- Excellent pulse load capability
- Non-inductive Ayrton Perry winding
- A wide resistance range 0.1Ω to 50Ω
- Operating temperature range -55°C ~ 155°C
- A wide range of power ratings 0.5W to 6W
- Products with Pb-free Terminations and RoHS compliant



General Specifications



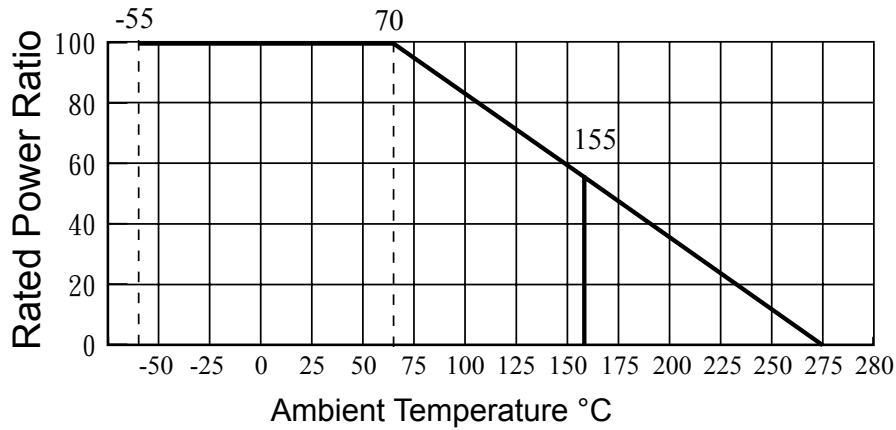
Type	Rated Watts	Dimensions (mm)				Resistance Range (Ω)	Tolerance	
		$D \pm 0.5$	$L \pm 1$	$H \pm 3$	$d \pm 0.05$			
KNPN	KNPN-50	1/2W	4	9.0	26	0.50~0.55	0.1-10 Ω	$\pm 1\%$ $\pm 2\%$ $\pm 5\%$
	KNPN-100	1W	4	9.0	26	0.50~0.55	0.1-10 Ω	
	KNPN-100B	1W	4.5	11.5	26	0.75~0.80	0.1-10 Ω	
	KNPN-200	2W	4.5	11.5	26	0.75~0.80	0.1-10 Ω	
	KNPN-200B	2W	5.5	15.5	35	0.75~0.80	0.1-20 Ω	
	KNPN-300	3W	5.5	15.5	35	0.75~0.80	0.1-20 Ω	
	KNPN-400	4W	6.5	17.5	35	0.75~0.80	0.1-30 Ω	
	KNPN-500	5W	6.5	17.5	35	0.75~0.80	0.1-30 Ω	
	KNPN-500B	5W	8.5	24.5	38	0.75~0.80	0.1-50 Ω	
KNPN-600	6W	8.5	24.5	38	0.75~0.80	0.1-50 Ω		

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.

Electrical Performance



TEST ITEMS	CONDITION	SPEC
Operating Temperature Range	-55 °C ~ 275 °C (0W)	
Resistance Temp. Coeff.	Room temperature/100 °C up	± 300 PPM / °C
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 °C ~ 85 °C 5 cycles	± 1 %

How to Order

KNPN-100

①

1W

②

10R

③

J

④

P

⑤

① Part Number: KNPN

② Rated Power (W)

③ Resistance Value (Ω)

Code	Resistance Value
0R1	0.1Ω
1R	1Ω
10R2	1.2Ω
10R	10Ω
12R	12MΩ

④ Resistance Tolerance (%)

Code	Resistance Tolerance
F	±1%
G	±2%
J	±5%

⑤ Package

Code	Package
TB	Taping Box
P	Bulk

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