

KNP/NKNP series

Wire Wound Resistors

KNP (Standard)

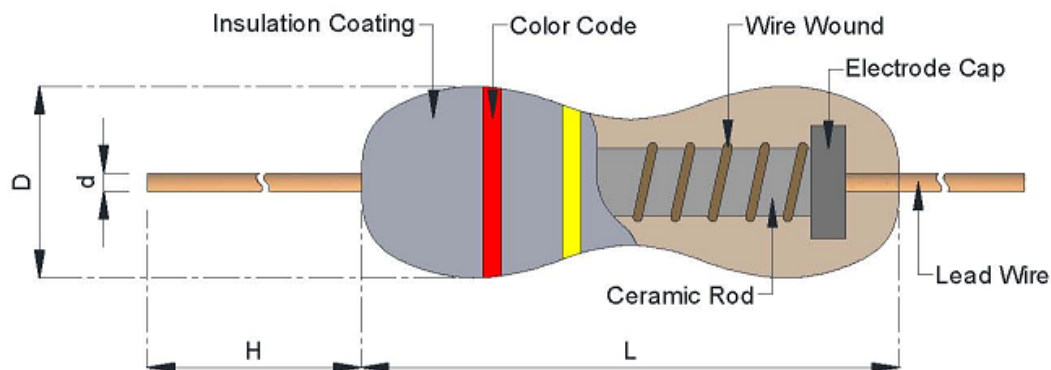
NKNP (Non-Inductive)

◆ Features

- » Super heat dissipation; small linear temperature coefficient.
- » Instant overload capability; Low noise figure and without annual shift on resistance value
- » Complete flameproof construction UL-1412
- » Value range $\pm 5\%$, $\pm 2\%$, $\pm 1\%$
- » Color: Gray or Green

◆ Power Ratings Dimensions

- » Standard Type: 1/2W ~ 15W
- » Miniature Type: 1Ws ~ 12Ws



◆ Dimensions

| Type | | Dimensions (mm) | | | | Value Range |
|---------------|-----------------|-----------------|-----------|----------|-------------|----------------|
| Standard | Miniature | L | D | H | d | |
| KNP50 (1/2W) | KNPS100 (1WS) | 9.0 ± 0.5 | 3.2 ± 0.5 | 26 ± 2.0 | 0.55 ± 0.05 | 0.01 Ω ~ 50 Ω |
| KNP100 (1W) | KNPS200 (2WS) | 11.5 ± 1.0 | 4.5 ± 0.5 | 35 ± 2.0 | 0.80 ± 0.05 | 0.01 Ω ~ 470 Ω |
| KNP200 (2W) | KNPS300 (3WS) | 15.5 ± 1.0 | 5.0 ± 0.5 | 32 ± 2.0 | 0.80 ± 0.05 | 0.01 Ω ~ 470 Ω |
| KNP300 (3W) | KNPS500 (5WS) | 17.5 ± 1.0 | 6.0 ± 0.5 | 32 ± 2.0 | 0.80 ± 0.05 | 0.01 Ω ~ 470 Ω |
| KNP500 (5W) | KNPS700 (7WS) | 24.5 ± 1.0 | 8.0 ± 0.5 | 38 ± 2.0 | 0.80 ± 0.05 | 0.01 Ω ~ 560 Ω |
| KNP700 (7W) | KNPS1000 (10WS) | 40.0 ± 1.0 | 8.0 ± 0.5 | 35 ± 2.0 | 0.80 ± 0.05 | 0.01 Ω ~ 560 Ω |
| KNP1000 (10W) | KNPS1200 (12WS) | 53.0 ± 1.0 | 8.0 ± 0.5 | 35 ± 2.0 | 0.80 ± 0.05 | 0.01 Ω ~ 560 Ω |
| KNP1500 (15W) | --- | 66.0 ± 1.0 | 8.0 ± 0.5 | 35 ± 2.0 | 0.80 ± 0.05 | 0.01 Ω ~ 500 Ω |

Value range for standard resistance, below or over this resistance on request



Non-Inductive type up to 50Ω only.

◆ Part Number

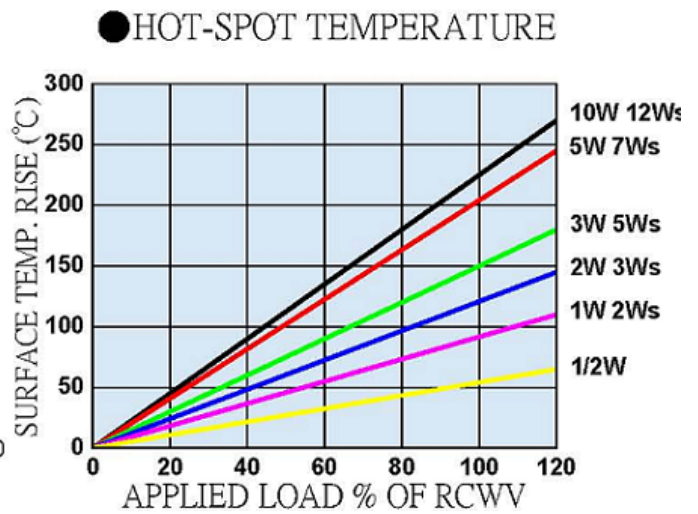
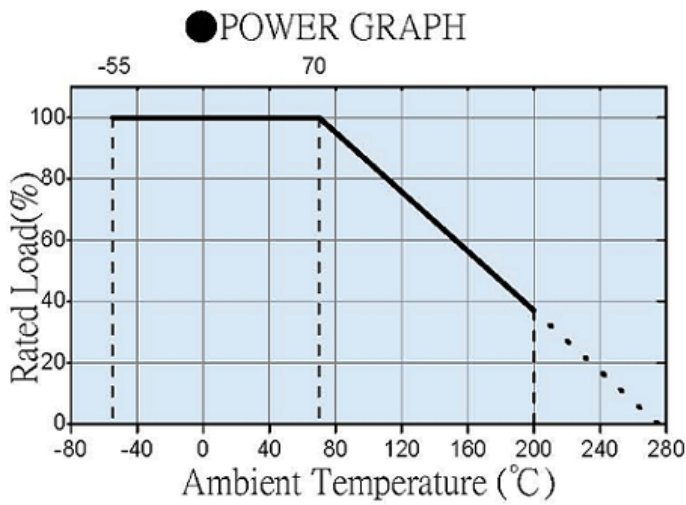
| KNP | 100 | J | 2K3 | T | |
|------|------------|-----------|------------|---------------------|-----------------|
| Type | Watt | Tolerance | R value | Packing | TCR |
| KNP | 1/2W = 50 | J = ± 5% | 2.3K = 2K3 | T = Taping Box | Blank = ±300ppm |
| KNPS | 1W = 100 | G = ± 2% | 10KΩ = 10K | B = Bulk | F = ±200ppm |
| NKNP | 2W = 200 | F = ± 1% | | R = Taping Reel | |
| | 3W = 300 | | | M = M Type | |
| | 5W = 500 | | | MB = MB Lead Form | |
| | 7W = 700 | | | MK = MK Lead Form | |
| | 10W = 1000 | | | F = F Lead Form | |
| | 12W = 1200 | | | FC = FC Lead Form | |
| | 15W = 1500 | | | FCK = FCK Lead Form | |
| | | | | FKK = FKK Lead Form | |

*T, R, M, MB, MK, F, FC, FCK & FKK lead form should be under 5W (7WS)

*7W up is bulk package only

◆ Electrical Characteristics

| Type | KNP 1/2W | KNP1W | KNP 2W | KNP 3W | KNP 5W | KNP 7W | KNP 10W | --- | KNP 15W |
|---------------------------------|-----------------|---------|---------|---------|---------|---------|----------|----------|---------|
| | --- | KNP 1WS | KNP 2WS | KNP 3WS | KNP 5WS | KNP 7WS | KNP 10WS | KNP 12WS | --- |
| Power rating at 70°C | 0.5W | 1W | 2W | 3W | 5W | 7W | 10W | 12W | 15W |
| Operating Temp. Range | - 55°C ~ +200°C | | | | | | | | |
| Resistance Temp Coeff. | ± 300ppm/°C | | | | | | | | |
| Dielectric withstanding voltage | 300V | | | 400V | | | | | |

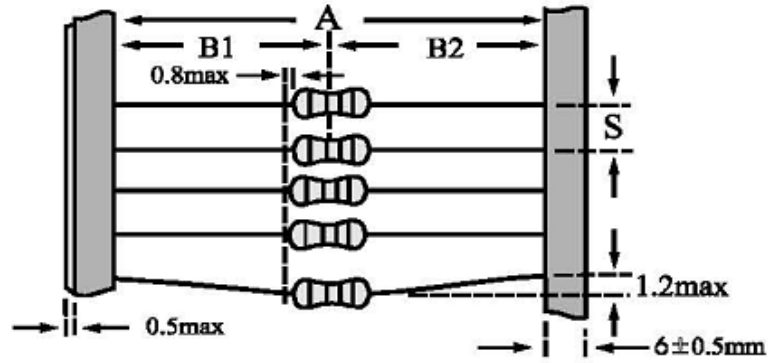


◆ Environmental Characteristics

| Performance Test | Test Method | Appraise |
|---------------------------------|--|-------------------|
| Short time overload | 2.5 times RCWV for 5 seconds | ±(2%+0.05Ω) |
| Temperature Coefficient (T.C.R) | Resistance value at room Temperature and room Temperature+100°C | By Type |
| Dielectric Withstanding Voltage | In V-Block for 60 seconds | By Type |
| Insulation Resistance | In V-Block | > 100MΩ |
| Load Life | 70°C at RCWV for 1000hrs. (1.5hrs. on · 0.5hrs.off) | ±(5%+0.05Ω) |
| Load Life in Humidity | 40±2°C 90~95%RH at RCWV for 1000hrs. (1.5hrs. on · 0.5hrs.off) | ±(5%+0.05Ω) |
| Solder Ability | 260±5°C for 2±0.5 seconds | 95% min. coverage |
| Terminal Strength | Direct load for 10 sec. In the direction off the terminal leads. | Tensile: ≥ 2.5kg |

Rated continuous Working Voltage (RCWV) = $\sqrt{\text{POWER. RATING} * \text{RESISTANCE. VALUE}}$

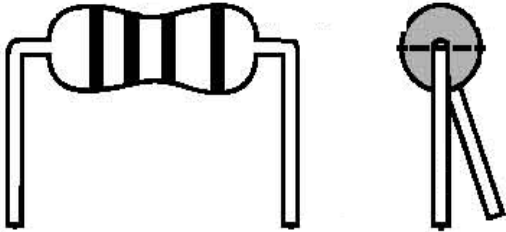
◆ **Packing Methods** Bandoleer for Axial leads



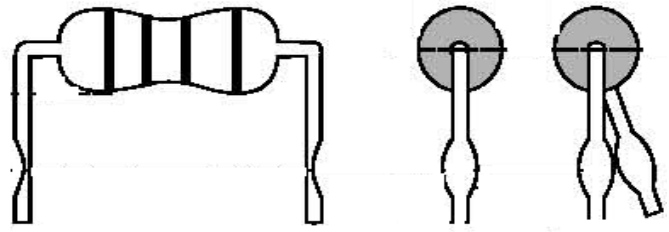
| Type | Dimensions (mm) | | | | | |
|--|-----------------|----------|-------------|---------------------------|---------------------|---|
| | A | B1-B2 | S (spacing) | Max. deviation of spacing | | |
| 1/8W 1/6W 1/4WS 0.4W (0204) 1/2WSS | 52 | +1 | 1.2 | 5 | 1 mm per 10 spacing | |
| | | -0 | | | | |
| | 26 | +1 | | | | 1 |
| | | -0 | | | | |
| 1/4W 1/2WS 0.6W(0207) 1WSS | 52 | +1 | 1.2 | 5 | | |
| | | -0 | | | | |
| | 26 | +1 | | | | 1 |
| | | -0 | | | | |
| 1/3W | 52 | +1 -0 | 1.2 | 5 | | |
| 1/2W 1WS 2WSS | 52 | +1 -0 | 1.2 | 5 | | |
| 1W 2WS 3WSS | 52 | +1 | 1.5 | 5 | | |
| | | -0 | | | | |
| | 73 | +1 | | | | |
| | | -0 | | | | |
| 2W 3WS 4WSS | 52 | +1 | 1.5 | 10 | | |
| | | -0 | | | | |
| | 73 | +1 | | | | |
| | | -0 | | | | |
| 3W | 52 | +1 | 1.5 | 10 | | |
| | | -0 | | | | |
| 5WS | 73 | +1 | | | | |
| | | -0 | | | | |
| 5W | 88 | +1 | 1.5 | 10 | | |

◆ Lead Forming

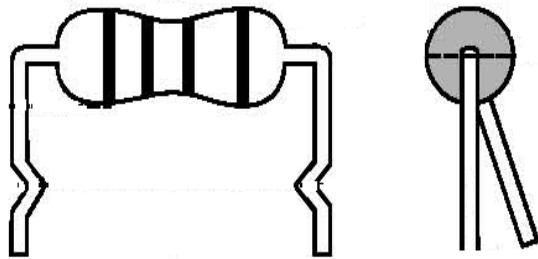
M Lead Form



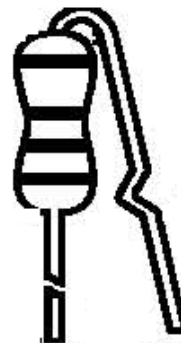
MB Lead Form



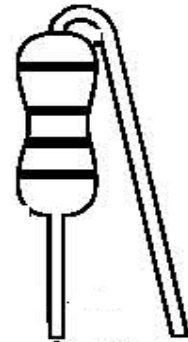
MK Lead Form



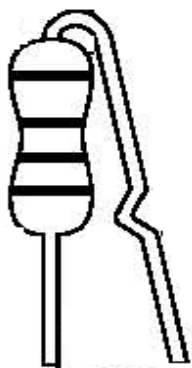
F Lead Form



FC Lead Form



FCK Lead Form



FKK Lead Form

