

## KNP/NKNP series

### Wire Wound Resistors

KNP (Standard)

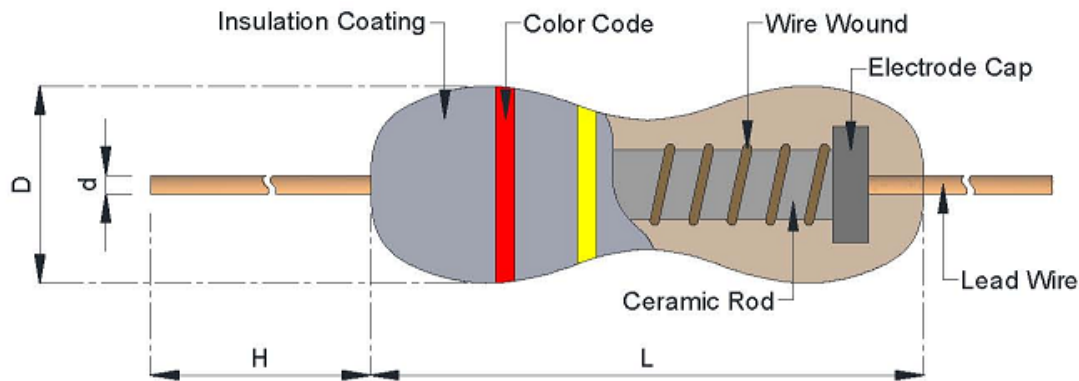
NKNP (Non-Inductive)

#### ◆ 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

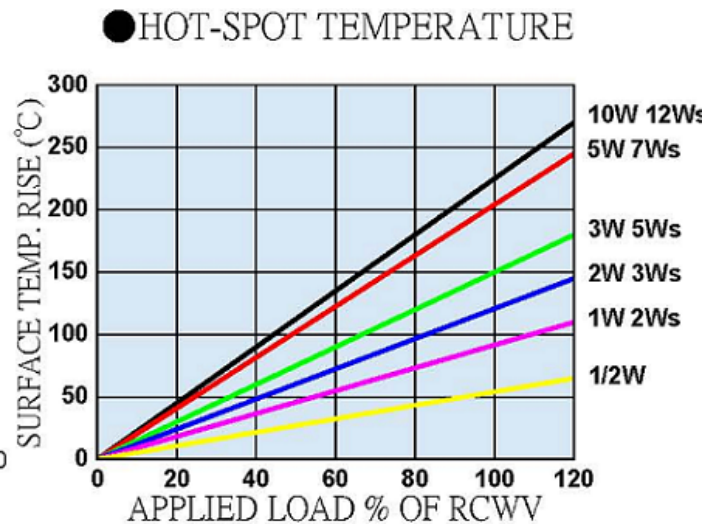
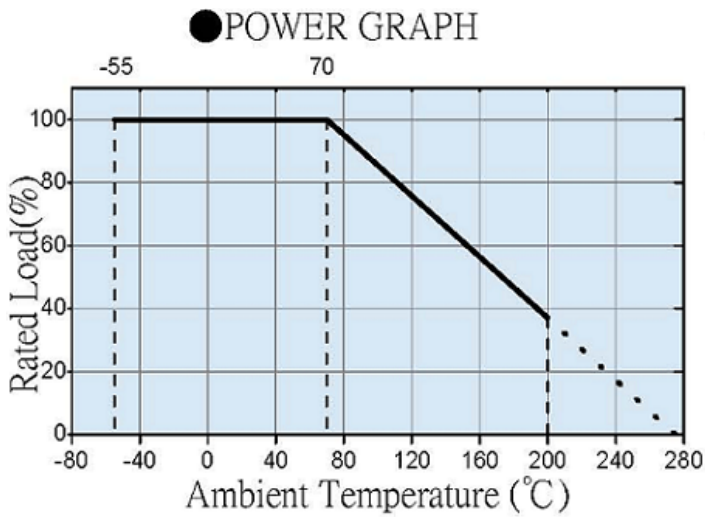
KNP	100	J	2K3	T	
Type	Watt	Tolerance	R value	Packing	TCR
KNP	1/2W = 50	J = ± 5%	2.3K = 2K3	T = Taping Box	Blank = ±300ppm
KNPS	1W = 100	G = ± 2%	10KΩ = 10K	B = Bulk	F = ±200ppm
NKNP	2W = 200	F = ± 1%		R = Taping Reel	S = Special Thick Coating
	3W = 300			M = M Type	E = ±100ppm
	5W = 500			MB = MB Lead 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					

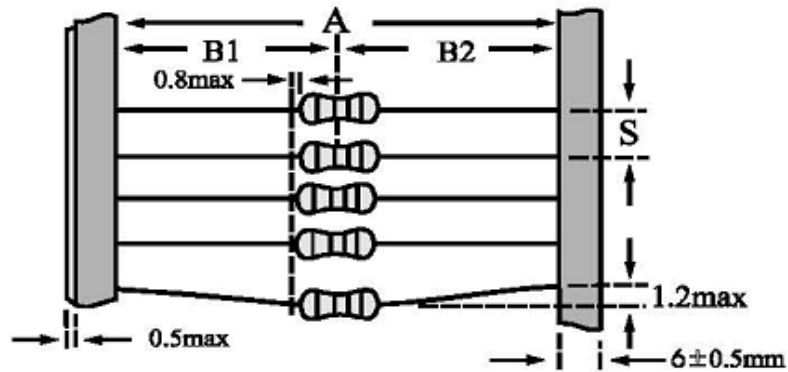


### ◆ Environmental Characteristics

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) =  $\sqrt{\text{POWER. RATING} * \text{RESISTANCE. VALUE}}$

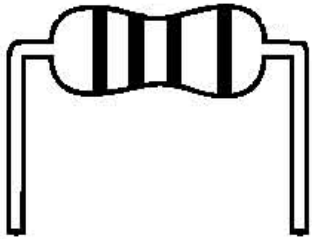
◆ **Packing Methods** Bandoleer for Axial leads



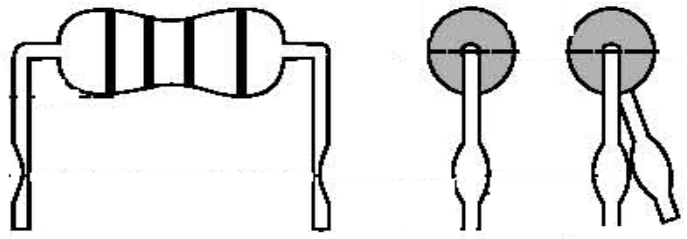
Type	Dimensions (mm)				
	A		B1-B2	S (spacing)	Max. deviation of spacing
1/8W 1/6W 1/4WS 0.4W (0204) 1/2WSS	52	+1	1.2	5	
		-0			
	26	+1	1		
		-0			
1/4W 1/2WS 0.6W(0207) 1WSS	52	+1	1.2	5	
		-0			
	26	+1	1		
		-0			
1/3W	52	+1	1.2	5	
		-0			
1/2W 1WS 2WSS	52	+1	1.2	5	
		-0			
1W 2WS 3WSS	52	+1	1.5	5	
		-0			
	73	+1			
		-0			
2W 3WS 4WSS	52	+1	1.5	10	
		-0			
	73	+1			
		-0			
3W  5WS	52	+1	1.5	10	
		-0			
	73	+1			
		-0			
5W 7WS	88	+1	1.5	10	
		-0			

◆ Lead Forming

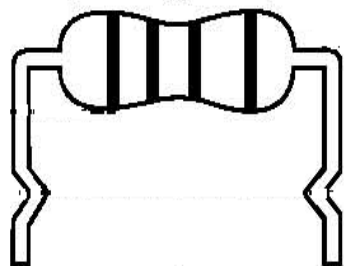
M Lead Form



MB Lead Form



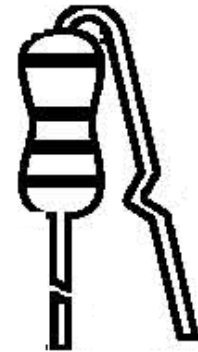
MK Lead Form



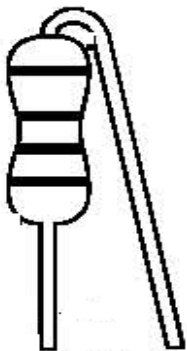
F Lead Form



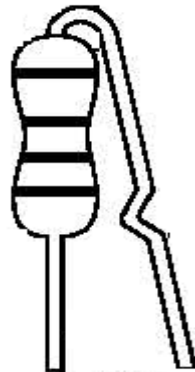
FK Lead Form



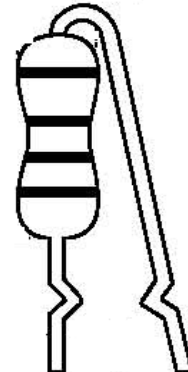
FC Lead Form



FCK Lead Form

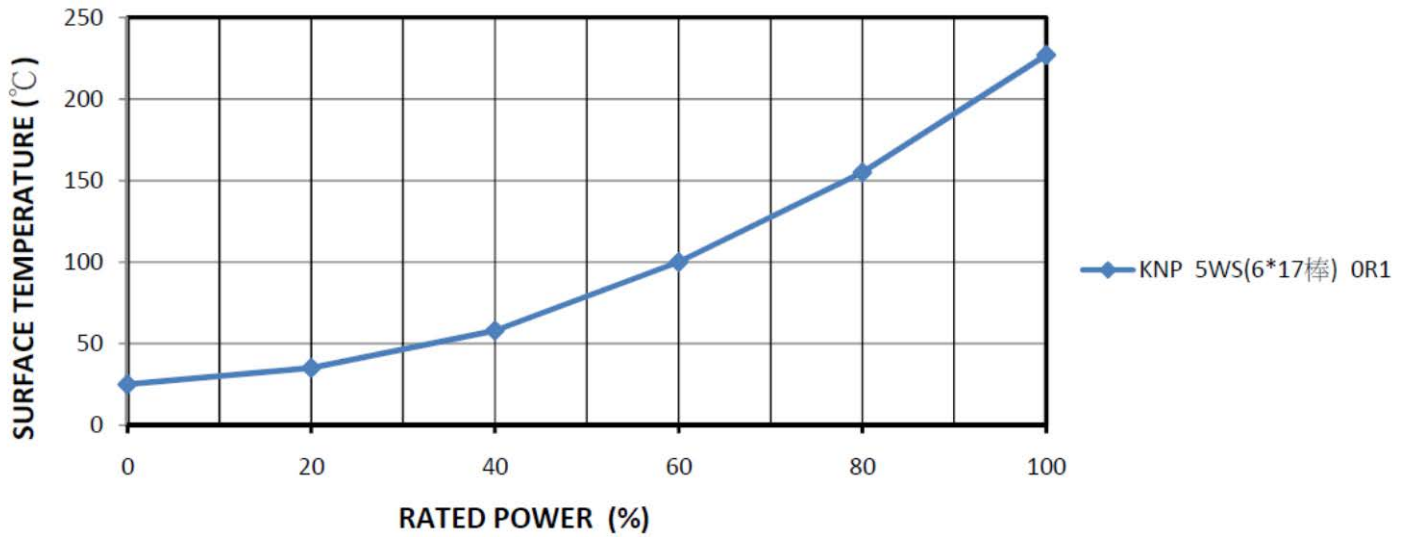


FKK Lead Form



◆ Special Thick Coating

**SURFACE TEMPERATURE - KNF 5WS 0R1**



**FUSING TIME - KNF 5WS 0R1**

