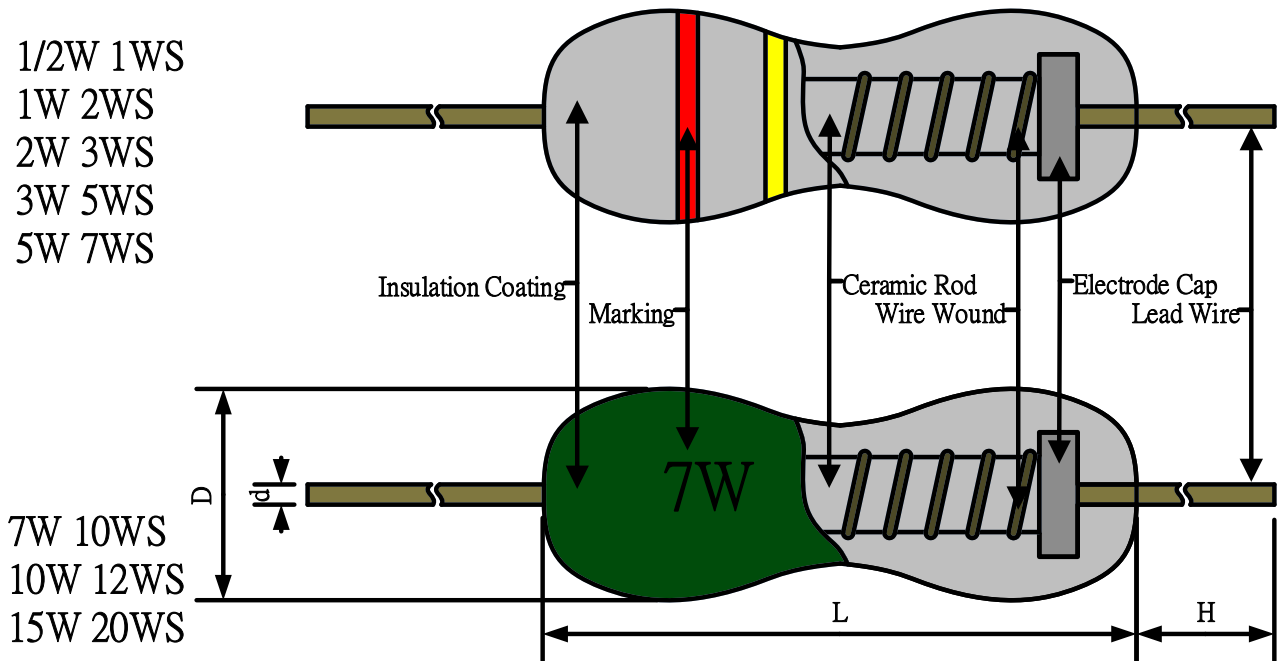


- PRODUCT FEATURES :
 - ⊙ Super heat dissipation ; Small linear temperature coefficient
 - ⊙ Instant overload capability ; Low noise figure and without annual shift on resistance value
 - ⊙ Meet flameproof construction UL-94
 - ⊙ Meet flameproof overload test UL-1412
 - ⊙ Value Range 、 $\pm 5\%$ 、 $\pm 1\%$
 - ⊙ RoHS compliant
- Power ratings Dimensions



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

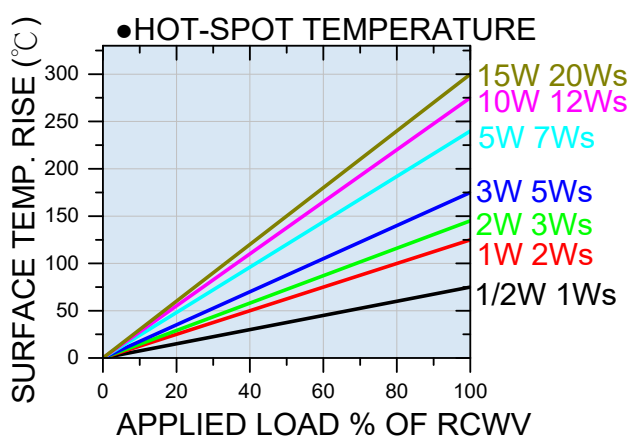
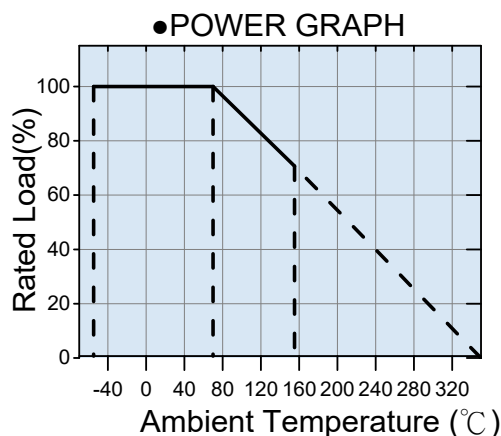
● Dimensions

STYLE		DIMENSIONS(mm)				Value Range	
Normal	Miniature	L	D	H	d	1%	5%
1/2W	1Ws	9.0±0.5	3.2±0.5	26±3.0	0.65±0.03	0.01 Ω~49 Ω	0.01 Ω~200 Ω
1W	2Ws	11.5±1.0	4.5±0.5	35±3.0	0.78±0.03	0.01 Ω~80 Ω	0.01 Ω~470 Ω
2W	3Ws	15.5±1.0	5.0±0.5	32±3.0	0.78±0.03	0.01 Ω~120 Ω	0.01 Ω~1K Ω
3W	5Ws	17.5±1.0	6.0±0.5	32±3.0	0.78±0.03	0.01 Ω~120 Ω	0.01 Ω~1K Ω
5W	7Ws	24.5±1.0	8.0±0.5	38±3.0	0.78±0.03	0.01 Ω~120 Ω	0.01 Ω~1K Ω
7W	10Ws	40.0±1.0	8.0±0.5	35±3.0	0.78±0.03	0.01 Ω~120 Ω	0.01 Ω~470 Ω
10W	12Ws	53.0±1.0	8.0±0.5	35±3.0	0.78±0.03	0.01 Ω~120 Ω	0.01 Ω~470 Ω
15W	20Ws	66.0±1.0	8.0±0.5	35±3.0	0.78±0.03	0.01 Ω~120 Ω	0.01 Ω~470 Ω

★ Value Range for standard resistance , below or over this resistance on request

● ELECTRICAL CHARACTERISTICS

STYLE	1/2W	1W	2W	3W	5W	7W	10W	15W
	1WS	2WS	3WS	5WS	7WS	10WS	12WS	20WS
Operating Temp. Range	-55°C to +350°C							
Resistance Temp. Coeff.	0.1R~20R ±50PPM/°C UP 22R ±300PPM/°C (special TCR by request)							
	0R01~0R099 ±500~1800PPM/°C Data Available By Request							
Dielectric Withstanding volt.	300V			400V				



● ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD	APPRAISE
Short Time Overload	Power Rating x 10 for 5 seconds	±(2%+0.05Ω)
Temperature Coefficient(T.C.R)	Resistance value at room (+25 °C) Temperature and room Temperature(+125°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 for1000hrs.(1.5hrs. on , 0.5hrs.off)	±(1%+0.05Ω)
Load Life In Humidity	40±2°C 90~95%RH at 0.1 times RCWV for1000hrs. (1.5hrs. on , 0.5hrs.off)	±(1%+0.05Ω)
Solder Ability	260±5°C for 10±0.5 seconds	95% min. coverage
Terminal Strength	Direct load for 10 sec. In the direction off the terminal leads.	Tensile: ≥2.5kg
Resistance to Solvent	IPA for 5±0.5 Min. with ultrasonic	No abnormality in coatings and markings.

Reference Standards: IEC 60115-1

Storage Temperature: 25±3°C; Humidity < 80%RH

★ Rated continuous Working Voltage (RCWV) = $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$

- Resistor body color
 - 1/2W To 7Ws
 - ⊙ Normal size----- Grey
 - ⊙ Miniature size-----Pink
 - ⊙ Marking With Color-code
 - 7W To 20Ws
 - ⊙ Normal And Miniature size-----Green
 - ⊙ Marking With Alphanumeric

● PART NUMBER:

KNP	5W	50R	J		TB
↓	↓	↓	↓	↓	↓
Type	Power Rating	Resistance	J	T.C.R	Packaging
Flame Proof	1/2W	0R3 0.3Ω	F ± 1%	Standard	TB Taping Box
WireWound	1WS	10R 10Ω	J ± 5%	A 400ppm	TR Taping Reel
Fixed Resistors	100R 100Ω		B 200ppm	BU Bulk
	15W			C 100ppm	F F-TYPE
	20Ws			E 50ppm	M M-TYPE
				G 25ppm	