

# Lumimax Optoelectronic Technology

## KNP Series

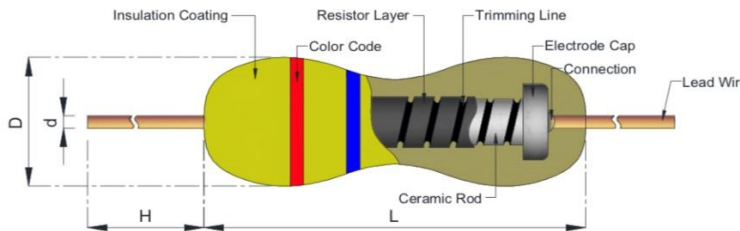
### WireWound Resistor – Flameproof Construction UL-1412

#### Product Features

- Super heat dissipation; small linear temperature coefficient
- Instant overload capability; Low noise figure and without annual shift on resistance value.
- Power ratings from 1/2W to 15Ws
- Products with lead-free terminations meet EU RoHS and China RoHS requirements
- All general purpose and Power applications



#### Power rating and Dimensions



**Pb-Free and  
RoHS Compliant  
AECQ-200 Qualified**

Style	Dimensions (mm)			
	L	D	H	d
KNP1/2W	9.0 ± 0.5	3.2 ± 0.5	26 ± 2.0	0.65 ± 0.03
KNP1W	11.5 ± 1.0	4.5 ± 0.5	35 ± 2.0	0.78 ± 0.03
KNP2W	15.5 ± 1.0	5.0 ± 0.5	32 ± 2.0	0.78 ± 0.03
KNP3W	17.5 ± 1.0	6.0 ± 0.5	32 ± 2.0	0.78 ± 0.03
KNP5W	24.5 ± 1.0	8.0 ± 0.5	38 ± 2.0	0.78 ± 0.03
KNP10W	53.0 ± 1.0	8.0 ± 0.5	35 ± 2.0	0.78 ± 0.03
KNP15W	66.0 ± 1.0	8.0 ± 0.5	35 ± 2.0	0.78 ± 0.03

#### Electronical Characteristics

Style	KNP1/2W	KNP1W	KNP2W	KNP3W	KNP5W
Body Size (D x L mm)	9.0 x 3.2mm	11.5 x 4.5mm	15.5 x 5.0mm	17.5 x 6.0mm	24.5 x 8.0mm
Dielectric Withstanding Voltage	300V	300V	400V	400V	400V
Resistance Temperature Coefficient	± 400PPM/ °C				
Operating Temperature	-55 °C ~ +350 °C				

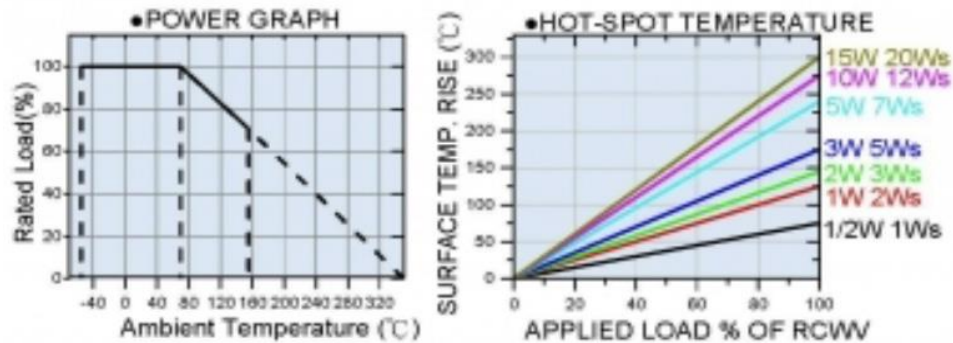
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## Test and Requirements

Performance test	Test Method	Appraise
Short time overload	Rated power x 10 for 5 seconds	$\pm(2\%+0.05\Omega)$
Temperature Coefficient (TCR)	Resistance value at room temperature and room temperature +100°C	By type
Dielectric withstanding voltage	JIS-C5202 5.7 In V-Block for 60 seconds	By type
Insulation resistance	JIS-C5202 5.6 In V-Block	>100M $\Omega$
Load life	JIS-C5202 7.10 70°C at RCWV* for 1000 hours (1.5 hrs on, 0.5 hrs. off)	$\pm(5\%+0.05\Omega)$
Load life in humidity	JIS-C5202 7.9 40°C $\pm$ 2°C 90~95% RH at RCWV for 1000 hours (1.5 hrs on, 0.5 hrs. off)	$\pm(5\%+0.05\Omega)$
Soler ability	JIS-C5202 6.5 260°C $\pm$ 5°C for 2 $\pm$ 0.5 seconds	95% min. coverage
Terminal strength	Direct load for 10 sec. in the direction off the terminal leads.	Tensile: $\geq$ 2.5kg

**Note:** \* RCWV: Rated Continuous Working Voltage =  $\sqrt{\text{Power rating} \times \text{Resistance value}}$



## Resistor body color

Normal size 1/2W to 5W: Grey color

Normal size 7W and above: Green color

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## Part Number

<b>KNP</b>	<b>3W</b>	<b>2K</b>	<b>J</b>	<b>T</b>
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Type	Power rating	Resistance	Tolerance	Packaging
WireWound	1/2W	1R = 1Ω	J = ± 5%	TB = Taping in box
	1W	10R = 10Ω	G = ± 2%	TR = Taping in reel
	3W	2K = 2KΩ	F = ± 1%	BU = Bulk
	5W	3K3 = 3.3KΩ		T = Cut Taped
	10W	10M = 10MΩ		

## Tape on box packing

3W Resistor	Quantity per box: 500pcs
1/2W, 1W and 2W Resistor	Quantity per box: 1000pcs

## MARKING

4-BAND-CODE  
±2%, ±5%

COLOR	1st BAND	2nd BAND	3rd BAND	MULTIPLIER	TOLERANCE
BLACK	0	0	0	1Ω	
BROWN	1	1	1	10Ω	
RED	2	2	2	100Ω	± 2% ( G )
ORANGE	3	3	3	1KΩ	
YELLOW	4	4	4	10KΩ	
GREEN	5	5	5	100K	
BLUE	6	6	6	1MΩ	
VIOLET	7	7	7	10MΩ	
GREY	8	8	8	0.001Ω	
WHITE	9	9	9	0.0001Ω	
GOLD				0.1Ω	± 5% ( J )
SILVER				0.01Ω	

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