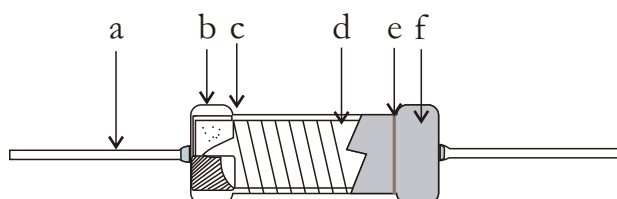




● Features

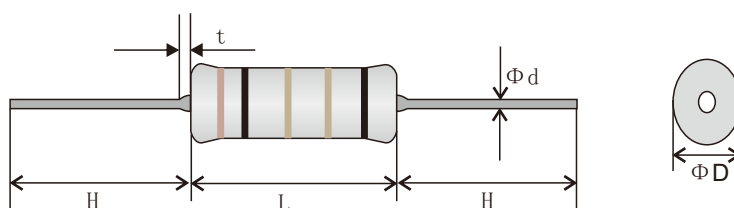
- I High power in small packages.
- II Function as a resistor in normal operation condition..
- III Quick fusing protects circuit from excessive over load.
- IV Products meet EU-RoHS.

● Construction



a	Lead wire
b	Cap
c	Ceramic base
d	Wire wound
e	Marking or color code
f	Insulation coat

● Dimensions



Type	Dimensions(mm)				
	L	ΦD	H	Φd	t
PNP100	6.3 ± 0.5	2.4 ± 0.2	28 ± 2.0	0.55 ± 0.05	2.5
PNP200	9.0 ± 0.5	3.3 ± 0.3	26 ± 2.0	0.55 ± 0.05	2.5
PNP300	11.5 ± 1.0	4.5 ± 0.5	35 ± 2.0	0.80 ± 0.05	2.5
PNP400	15.5 ± 1.0	5.0 ± 0.5	33 ± 2.0	0.80 ± 0.05	2.5

● Ordering Information

Example:

PNP	14	J	R100
(1)	(2)	(3)	(4)
Series Name	Power Rating	Resistance Tolerance	Resistance

(1)Type: PNP SERIES

(2)Power Rating: 100=1W、200=2W、300=3W、400=4W

(3)Tolerance: J=±5%

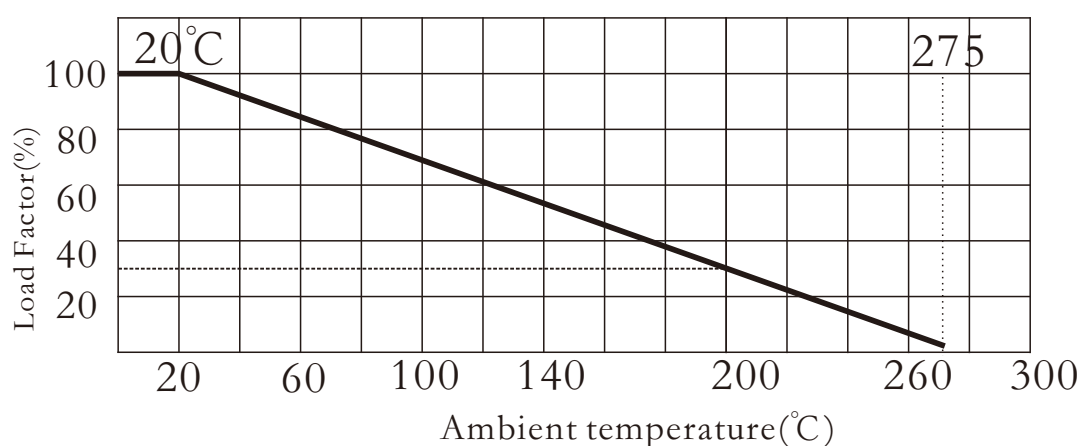
(4)Resistance Value:R100=0.1R、1R00=1Ω、10R0=10Ω、100R0=100Ω

● Applications And Ratings

Style	PNP100	PNP200	PNP300	PNP400
Power Rating at 70°C	1W	2W	3W	4W
Voltage Proof on Insulation	300V			
Resistance Range ($\pm 5\%$)	0.1 Ω - 270 Ω	0.1 Ω - 560 Ω	0.1 Ω - 1K Ω	0.1 Ω - 1K Ω
Operating Temp. Range	-40°C to +275°C			
Temperature Coefficient	$\pm 100\text{ppm}/^\circ\text{C}$			
Flameproof Multi-layer Coating Meets	UL -94V-0			
Flameproof Feature Meets Overload Test	UL-1412			

Note: Below or over this resistance on request

● Derating Curve



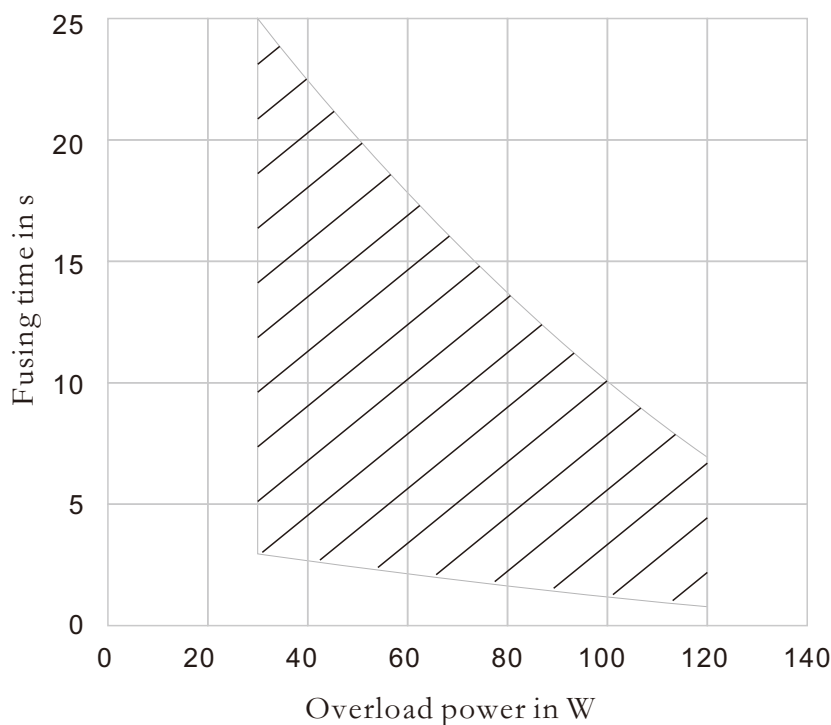
● Fusing Characteristics (Preference)

Fusing characteristics (Residual resistance ≥ 100 times nominal resistance)

Type	Resistance Range	$\sqrt{48PR}$	$\sqrt{36PR}$	$\sqrt{25PR}$	Fusing Time
PNP100	0.1~100 Ω	0.1~10 Ω	4.7~56 Ω	10~1000 Ω	30sMAX
PNP200	0.1~100 Ω	0.1~10 Ω	4.7~56 Ω	10~1000 Ω	30sMAX
PNP300	0.1~100 Ω	0.1~10 Ω	4.7~56 Ω	10~1000 Ω	30sMAX
PNP400	0.1~100 Ω	0.1~10 Ω	4.7~56 Ω	10~1000 Ω	30sMAX

Fusing characteristics can be fixed according to customers needs, more inquiry please contact with our engineer kwx@kwxcom.com

Fusing Curve



The Fusing curve is different from each other. More information, please contact with our engineer kwx@kwxcom.com

Performance

Performance test	Test method		Appraise
Short Time Overload	JIS-C 5202 5.5	2.5 times RCWV for 5 Sec.	$\pm 2.0\%R + 0.05\Omega$
Dielectric Withstanding Voltage	JIS-C 5202 5.7	in V-block for 60 Sec.,	By type
Temperature Coefficient	JIS-C 5202 5.2	-55°C to $+155^{\circ}\text{C}$	By type
Insulation Resistance	JIS-C 5202 5.6	in V-block	$>100M\Omega$
Solderability	JIS-C 5202 6.5	$260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 5 ± 0.5 Sec.	95% Min. coverage
Resistance to Solvent	JIS-C 5202 6.9	IPA for 1 Min. with ultrasonic	No deterioration of coatings and markings
Terminal Strength	JIS-C 5202 6.1	Direct load for 10 Sec. in the direction of the terminal leads	$\geq 2.5\text{kg}$ (24.5N)
Load Life in Humidity	JIS-C 5202 7.9	$40 \pm 2^{\circ}\text{C}$, 90-95% RH at RCWV for 1000Hrs. (1.5Hrs.on, 0.5Hrs.off)	$\pm 5.0\%R + 0.05\Omega$
Load Life	JIS-C 5202 7.10	70°C at RCWV for 1,000 Hr. (1.5 Hr. on, 0.5 Hr. off)	$\pm 5.0\%R + 0.05\Omega$
Temperature Cycling	JIS-C 5202 7.4	$-55^{\circ}\text{C} \rightarrow \text{Room Temp.} \rightarrow +155^{\circ}\text{C} \rightarrow \text{Room Temp.}$ (5 cycles)	$\pm 1.0\%R + 0.05\Omega$
Resistance to Soldering Heat	JIS-C 5202 6.4	$350^{\circ}\text{C} \pm 3^{\circ}\text{C}$ for 3 ± 0.5 Sec.,	$\pm 1.0\%R + 0.05\Omega$
Overload Flame Retarant	JIS-C 5202 7.12	4 times RCWV for 1 Min.	No evidence of flaming or arcing

Note: Rated Continuous Working Voltage(RCWV) = $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$