

Wire-Wound Fixed Resistors

Performance Specification

Temperature Coefficient	<20Ω: ±400PPM/°C; ≥20Ω: ±300PPM/°C
Short Time Overload	±(2.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Dielectric Withstanding Voltage	No evidence of flashover, mechanical damage, arcing or insulation breakdown.
Pulse Overload	±(5.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Terminal Strength	No evidence of mechanical damage.
Resistance to Soldering Heat	±(1.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Solderability	Min. 95% coverage.
Temperature Cycling	±(2.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Load Life in Humidity	±(5.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Load Life	±(5.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Non-Flame	No evidence of flaming or arcing.
Surge Immunity (IEC 61000-4-5)	±(5.0% + 0.05Ω)Max,

Ordering Procedure: Ex.: KNP 1W,+/-5%, 100Ω, T/B-1000

K	N	P	0	1	W	J	0	1	0	1	A	1	0		
Type: KNP = KNP KNS = KNS KNH = KNH				Wattage: Normal W2 = 1/2W 1W = 1W 9W = 9W AW = 10W A0 = 100W Small 1S = 1W-S 9S = 9W-S AS = 10W-S Extra Small 1U = 1W-SS 2U = 2W-SS 3U = 3W-SS 4U = 4W-SS AU = 10W-SS			Resistance Value: - E-24 series: 1st digit is "0" 2nd & 3rd digits are the significant figures of the resistance 4th indicates the number of zeros: "J" ~ 0.1, "K" ~ 0.01 Ex.: 4.7Ω ~ 47J, 4.7KΩ ~ 472 - E-96 series: 1st to 3rd digits are the significant figures of the resistance and the 4th digit indicates the number of zeros. Ex. 1.33K =1331			Packing Type: A = Tape/Box T = Tape/Reel B = Bulk/Box		Packing Qty: 1 = 1,000 pcs. 2 = 2,000 pcs. A = 500 pcs. B = 2,500 pcs.(for T/R) 0 = Bulk/Box		Additional Information: (for KNP,KNS,KNH,KNHA Type B/B pack only) 0 = NIL (for KNP Type only) 0 = PT-52mm, PT-26mm 8 = PT-58mm 9 = PT-64mm C= PT-73mm	
Feature: 0 = Standard I = Non-Inductive U = UL Approved S = Special / Customized (For KNP Type only)			Tolerance: F = ±1% G = ±2% J = ±5% K = ±10%												

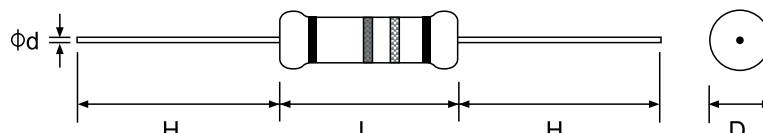
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Features

- Color coating is "Green"
- Non-inductive type available
- Excellent flame resistance
- Too low or too high ohmic value can be supplied on a case to case basis
- Special Fusing Wire-Wound Resistors can be supplied on a case to case basis
- Special UL approved items available (UL1412) 



Standard : 2% ,5% ,10% -- E-24 series
1% -- E-96 series



Part No.	Style	Power Rating at 70℃	Dimension (mm)					Low Resistance Range	Standard Resistance Range	High Resistance Range
			D±1	L±1	H±3	d±0.05	PT			
Normal Size										
KNP0W2	KNP 50	1/2W (0.50W)	3.5	10.0	28	0.54	52	0.06Ω~9.9Ω	10Ω~39Ω	40Ω~560Ω
KNP01W	KNP 100	1W	5.0	12.0	25	0.70	52	0.10Ω~9.9Ω	10Ω~50Ω	51Ω~1KΩ
KNP02W	KNP 200	2W	5.5	16.0	28	0.70	64	0.15Ω~9.9Ω	10Ω~120Ω	121Ω~2KΩ
KNP03W	KNP 300	3W	6.5	17.5	28	0.75	64	0.25Ω~9.9Ω	10Ω~200Ω	201Ω~3KΩ
KNP05W	KNP 500	5W	8.5	25	38	0.75	B/B	0.50Ω~9.9Ω	10Ω~470Ω	471Ω~5KΩ
KNP07W	KNP 700	7W	8.5	30	38	0.75	B/B	0.65Ω~9.9Ω	10Ω~470Ω	471Ω~6KΩ
KNP08W	KNP 800	8W	8.5	40	38	0.75	B/B	1.0Ω~9.9Ω	10Ω~1.5KΩ	1.6KΩ~10KΩ
KNP09W	KNP 900	9W	8.5	53	38	0.75	B/B	1.0Ω~9.9Ω	10Ω~1.5KΩ	1.6KΩ~15KΩ
Small Size										
KNP01S	KNP 100-S	1W	3.5	10.0	28	0.54	52	0.06Ω~9.9Ω	10Ω~39Ω	40Ω~560Ω
KNP02S	KNP 200-S	2W	5.0	12.0	25	0.70	52	0.10Ω~9.9Ω	10Ω~50Ω	51Ω~1KΩ
KNP03S	KNP 300-S	3W	5.5	16.0	28	0.70	64	0.15Ω~9.9Ω	10Ω~120Ω	121Ω~2KΩ
KNP05S	KNP 500-S	5W	6.5	17.5	28	0.75	64	0.25Ω~9.9Ω	10Ω~200Ω	201Ω~3KΩ
KNP07S	KNP 700-S	7W	8.5	25	38	0.75	B/B	0.50Ω~9.9Ω	10Ω~470Ω	471Ω~5KΩ
KNP08S	KNP 800-S	8W	8.5	30	38	0.75	B/B	0.65Ω~9.9Ω	10Ω~470Ω	471Ω~6KΩ
KNP09S	KNP 900-S	9W	8.5	40	38	0.75	B/B	1.0Ω~9.9Ω	10Ω~1.5KΩ	1.6KΩ~10KΩ
KNP0AS	KNP 1000-S	10W	8.5	53	38	0.75	B/B	1.0Ω~9.9Ω	10Ω~1.5KΩ	1.6KΩ~15KΩ
Extra Size										
KNP01U	KNP 100-SS	1W	3.0	9.0	28	0.54	52	0.10Ω~9.9Ω	10Ω~39Ω	40Ω~180Ω
KNP02U	KNP 200-SS	2W	3.5	10.0	28	0.54	52	0.10Ω~9.9Ω	10Ω~39Ω	40Ω~220Ω
KNP03U	KNP 300-SS	3W	5.5	13.5	28	0.70	64	0.20Ω~9.9Ω	10Ω~50Ω	51Ω~620Ω
KNP04U	KNP 400-SS	4W	5.5	16.0	28	0.70	64	0.20Ω~9.9Ω	10Ω~120Ω	121Ω~750Ω
KNP0AU	KNP 1000-SS	10W	8.5	40	38	0.75	B/B	1.0Ω~9.9Ω	10Ω~1.5KΩ	1.6KΩ~5KΩ

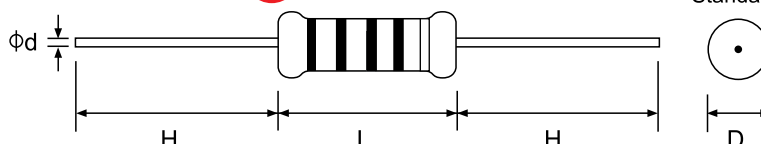
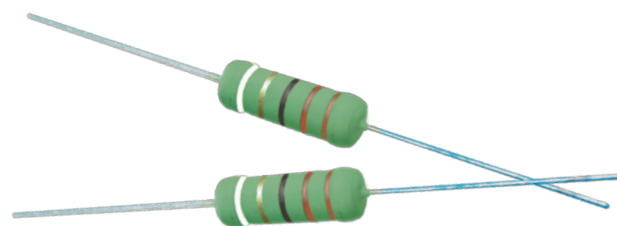
Note: For KNP Series Max. Working Voltage: 500V
 Max. Overload Voltage: 1,000V
 Dielectric Withstanding Voltage : Dimension $\leq 3.5 \times 10$: 350V
 $> 3.5 \times 10$: 500V

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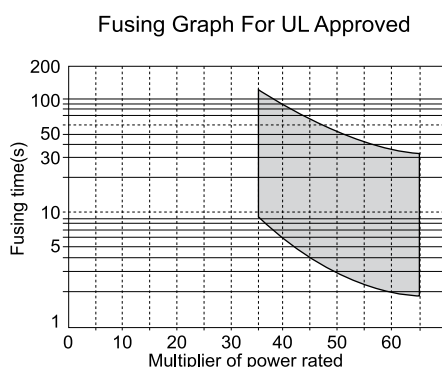
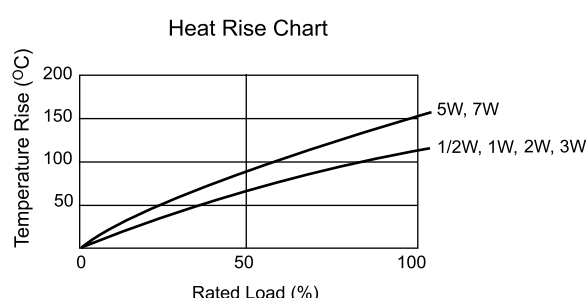
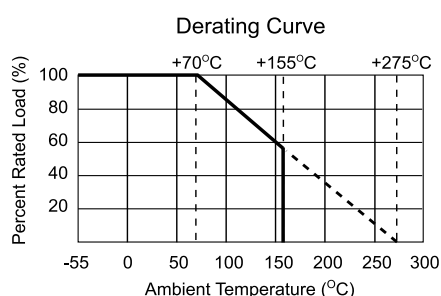


Standard : 2% ,5% ,10% -- E - 24 series
1% -- E - 96 series

Part No.	Style	Power Rating at 70℃	Dimension (mm)					Standard Resistance Range
			D(Max)	L (Max)	H±3	d±0.05	PT	
Normal Size								
KNPU1W	KNPU100	1W	5.0	12.0	28	0.70	52	0.47Ω ~ 240Ω
KNPU2W	KNPU200	2W	5.5	16.0	28	0.70	64	0.47Ω ~ 240Ω
KNPU3W	KNPU300	3W	6.5	17.5	28	0.75	64	0.47Ω ~ 240Ω
KNPU5W	KNPU500	5W	8.0	20.0	38	0.75	B/B	0.47Ω ~ 240Ω
KNPU7W	KNPU700	7W	8.5	25.0	38	0.75	B/B	0.47Ω ~ 47Ω

Note: Surge spec available on a case to case basis.

Part No.	Style	Power Rating at 70℃	Dimension (mm)					Resistance Range	Standard Packing Qty	Max Surge Voltage
			D(Max)	L(Max)	H±3	d±0.05	PT			
Small Size										
KNPU1U	KNPU1W-SS	1W	3.0	8.5	28.0	0.54	52	10Ω	1,000	1.2KV
KNPU1S	KNPU1W-S	1W	4.0	9.0	28.0	0.60	52	4.7Ω ~ 47Ω	1,000	Depends on Value
KNPU1S	KNPU1W-S	1W	4.0	10.0	28.0	0.75	52	4.7Ω ~ 47Ω	1,000	Depends on Value
KNPU2S	KNPU2W-S	2W	5.0	12.0	28.0	0.70	52	0.47Ω ~ 240Ω	1,000	Depends on Value
KNPU3S	KNPU3W-S	3W	5.5	16.0	28.0	0.70	64	0.47Ω ~ 240Ω	1,000	Depends on Value

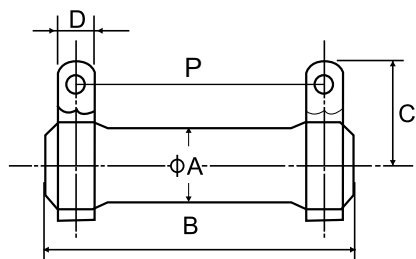


Note: For KNP Series Dielectric Withstanding Voltage : 1,000VAC.

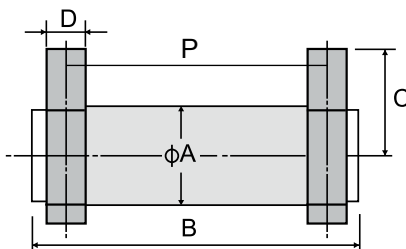
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KNH, KNHA Type

KNH Type

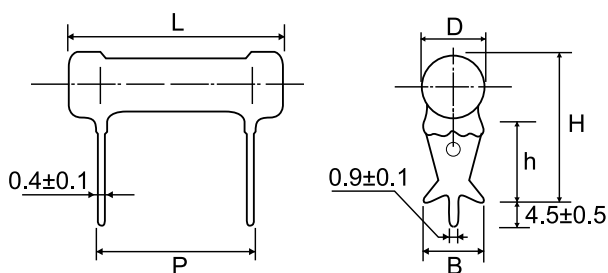


KNHA Type



Part No.	Style	Power Rating at 70°C	Dimension (mm)					Resistance Range
			A±1.5	B±1.5	C±3	D±0.5	P±5	
KNH020	KNH 20W	20W	19	50	19	4.5	40	0.4Ω ~ 10KΩ
KNH030	KNH 30W	30W	19	75	19	4.5	65	0.5Ω ~ 15KΩ
KNH040	KNH 40W	40W	19	90	19	4.5	80	0.6Ω ~ 20KΩ
KNH050	KNH 50W	50W	28	75	31	8	65	3Ω ~ 25KΩ
KNH060	KNH 60W	60W	28	90	31	8	80	3Ω ~ 30KΩ
KNH080	KNH 80W	80W	28	115	31	8	100	3Ω ~ 40KΩ
KNH100	KNH 100W	100W	28	140	31	8	130	3Ω ~ 50KΩ
KNHA25	KNHA 25W	25W	21	41	24	5	30	0.4Ω ~ 10KΩ
KNHA30	KNHA 30W	30W	21	42	24	5	30	0.4Ω ~ 10KΩ

KNS Type

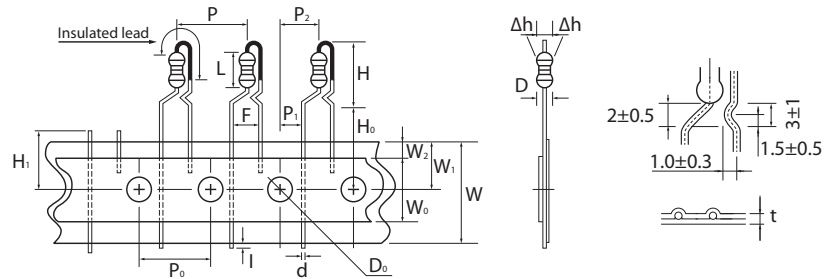


Part No.	Style	Power Rating at 70°C	Dimension (mm)						Resistance Range
			D Max	L±1.5	P±0.5	H±1	h±1	B±0.5	
KNS02W	KNS 200	2W	8	19	8	19	12	4.5	0.1Ω ~ 50Ω
KNS03W	KNS 300	3W	8	21	10	19	13	4.5	0.5Ω ~ 50Ω
KNS05W	KNS 500	5W	10	26	15	21.5	13	6.5	0.5Ω ~ 100Ω
KNS07W	KNS 700	7W	10	31	20	21.5	13	6.5	1Ω ~ 1KΩ
KNS08W	KNS 800	8W	10	41	30	21.5	13	6.5	1Ω ~ 1.5KΩ
KNS0AW	KNS 1000	10W	10	54	43	21.5	13	6.5	1Ω ~ 2KΩ

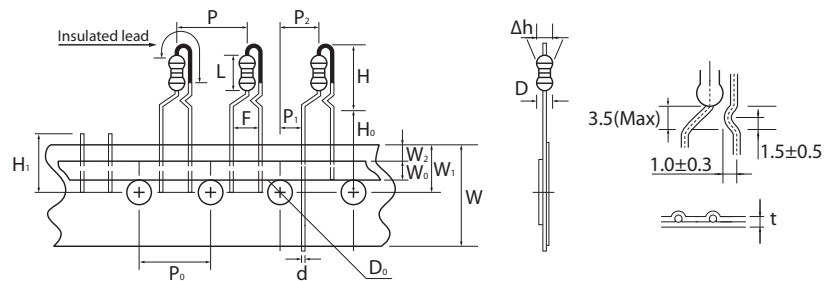
Feature

- This specification is applicable for CFR 1/4W, 1/2W, 1WS&CPR1/2W&MF1/4W, 1/2WS, 1/2W, 1WS, 2WS&MOR1/4W, 1WS, 2WS, KNP1/4W, 1/2WS, 1WS, 2WS product only. KNP2WS product only; For other product (size), please consult factory for the available specification and drawing..
- Standard product is insulated lead wire, insulated coating length
1/4W: 9.5±1mm;
1WS: 13±1mm;
2WS: 15±1mm

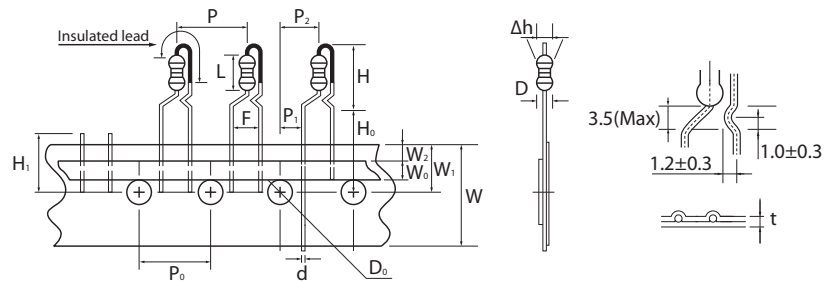
Panaset Type 1:



Panaset Type 1:



Panaset Type 2:



Items	Symbol	Dimension (mm)			
		1/4W	1/2WS	1WS	2WS
Body diameter	D	2.5 (Max)	3±0.5	3.5±0.5	4±0.5
Body length	L	6.8 (Max)	9±1	9±1	11.5±1
Body height	H	12 (Max)	17 (Max)	19 (Max)	21 (Max)
Lead-wire diameter	d	0.60±0.05	0.60±0.05	0.70±0.05	0.70±0.05
Pitch of component	p	12.7±1	12.7±1	12.7±1	12.7±1
Feed hole pitch	P ₀	12.7±0.3	12.7±0.3	12.7±0.3	12.7±0.3
Hole center to lead	P ₁	3.85±0.7	3.85±0.7	3.85±0.7	3.85±0.7
Hole center to body	P ₂	6.35±1.3	6.35±1.3	6.35±1.3	6.35±1.3
Lead to lead distance	F	5±1	5±1	5±1	5±1
Component alignment	Δh	0±1	0±1	0±1	0±1
Tape width	W	18±1	18+1/-1.5	18+1/-1.5	18+1/-1.5
Sticky tape width	W ₀	12.5 (Min)	/	12.5 (Min)	12.5 (Min)
		6 (min)	6±0.2	6±0.2	6±0.2
Hole position	W ₁	9±0.5	9+0.75/-0.5	9+0.75/-0.5	9+0.75/-0.5
Uncovered paper tape width	W ₂	1.5 (Max)	1.5 (Max)	1.5 (Max)	1.5 (Max)
Lead-wire clinch height	H ₀	16.5 (Max)	16±0.5	16±0.5	16±0.5
Length of snapped lead	H ₁	11 (Max)	11 (Max)	11 (Max)	11 (Max)
Feed hole diameter	D ₀	4±0.3	4±0.3	4±0.3	4±0.3
Total tape thickness	t	0.5±0.2	0.5±0.2	0.5±0.2	0.5±0.2
Lead wire protrusion	i	1Max	-	-	-
Length of lead cut	H1-w1	2±0.5	2±0.5	2±0.5	2±0.5