

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
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Type:
KNP = KNP
KNH = KNH
KNS = KNS

Feature:
0 = Standard
U = UL Approved
A = Anti-Surge
S = Special / Customized (For KNP Type only)
I = Non-Inductive

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 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 significant figures of the resistance and the 4th digit indicates the number of zeros.
Ex.: 1.33KΩ = 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

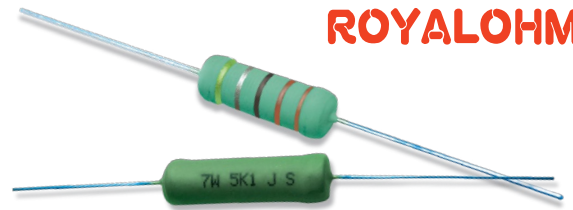
(for KNP Type Only)
0 = PT-52mm
8 = PT-58mm
9 = PT-64mm
C = PT-73mm

Tolerance:
F = ±1%
G = ±2%
J = ±5%
K = ±10%

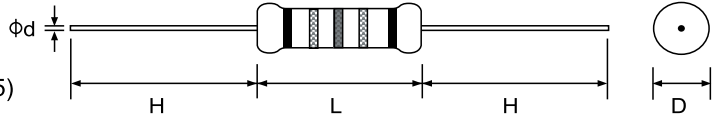
Anti-Surge Wire-Wound Fixed Resistors

Features

- Color coating is "Green"
- 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 Anti-Surge function items available (per IEC 61000-4-5)



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



Type	Style	Power Rating at 70°C	Dimension (mm)				
			D±1	L±1	d±0.05	H±3	PT
Normal Size							
KNPAW2	KNPA50	1/2W(0.5W)	3.5	10.0	0.54	28	52
KNPA1W	KNPA100	1W	5.0	12.0	0.70	28	52
KNPA2W	KNPA200	2W	5.5	16.0	0.70	28	64
KNPA3W	KNPA300	3W	6.5	17.5	0.75	28	64
KNPA5W	KNPA500	5W	8.5	25.0	0.75	38	B/B
KNPA7W	KNPA700	7W	8.5	30.0	0.75	38	B/B
KNPA8W	KNPA800	8W	8.5	40.0	0.75	38	B/B
KNPA9W	KNPA900	9W	8.5	53.0	0.75	38	B/B
Small Size							
KNPA1S	KNPA-100-S	1W	3.5	10.0	0.54	28	52
KNPA2S	KNPA-200-S	2W	5.0	12.0	0.70	28	52
KNPA3S	KNPA-300-S	3W	5.5	16.0	0.70	28	52
KNPA5S	KNPA-500-S	5W	6.5	17.5	0.75	28	64
KNPA7S	KNPA-700-S	7W	8.5	25.0	0.75	38	B/B
KNPA8S	KNPA-800-S	8W	8.5	30.0	0.75	38	B/B
KNPA9S	KNPA-900-S	9W	8.5	40.0	0.75	38	B/B
KNPAAS	KNPA-1000-S	10W	8.5	53.0	0.75	38	B/B

Surge Rating

Type	Low Resistance Range	Maximum Surge Voltage	Medium Resistance Range	Maximum Surge Voltage	High Resistance Range	Maximum Surge Voltage
Normal Size						
KNPAW2	10Ω~40Ω	2KV	43Ω~240Ω	3KV	270Ω~560Ω	4KV
KNPA1W	10Ω~50Ω	3KV	51Ω~240Ω	4KV	270Ω~1KΩ	5KV
KNPA2W	10Ω~100Ω	4KV	110Ω~240Ω	5KV	270Ω~2KΩ	6KV
KNPA3W	10Ω~100Ω	6KV	110Ω~680Ω	7KV	750Ω~3KΩ	8KV
KNPA5W	10Ω~160Ω	7KV	180Ω~680Ω	8KV	750Ω~5KΩ	9KV
KNPA7W	10Ω~160Ω	8KV	180Ω~680Ω	9KV	750Ω~6KΩ	10KV
KNPA8W	10Ω~160Ω	9KV	180Ω~680Ω	10KV	750Ω~10KΩ	10KV
KNPA9W	10Ω~160Ω	10KV	180Ω~680Ω	10KV	750Ω~15KΩ	10KV
Small Size						
KNPA1S	10Ω~40Ω	2KV	43Ω~240Ω	3KV	270Ω~560Ω	4KV
KNPA2S	10Ω~50Ω	3KV	51Ω~240Ω	4KV	270Ω~1KΩ	5KV
KNPA3S	10Ω~100Ω	4KV	110Ω~240Ω	5KV	270Ω~2KΩ	6KV
KNPA5S	10Ω~100Ω	6KV	110Ω~680Ω	7KV	750Ω~3KΩ	8KV
KNPA7S	10Ω~160Ω	7KV	180Ω~680Ω	8KV	750Ω~5KΩ	9KV
KNPA8S	10Ω~160Ω	8KV	180Ω~680Ω	9KV	750Ω~6KΩ	10KV
KNPA9S	10Ω~160Ω	9KV	180Ω~680Ω	10KV	750Ω~10KΩ	10KV
KNPAAS	10Ω~160Ω	10KV	180Ω~680Ω	10KV	750Ω~15KΩ	10KV

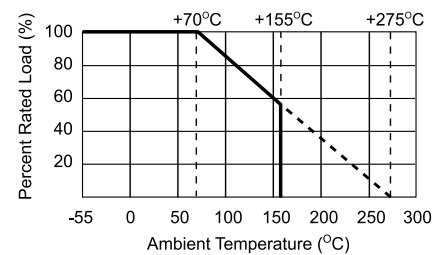
Note: For KNPA Series Max. Working Voltage: 500V
 Max. Overload Voltage: 1,000V
 Dielectric Withstanding Voltage : Dimension ≤ 3.5 x 10 : 350V
 > 3.5 x 10 : 500V

Above surge range per power depend on the specific ohmic value required

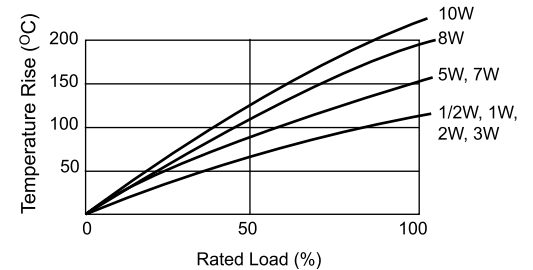
The following are available on case to case basis:

- Low and high resistance
- Small size
- Higher surge voltage

Derating Curve



Heat Rise Chart



Surge Waveform (1.2/50μs)

