## WIRE-WOUND FIXED RESISTORS

## 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

- Available Fusing Wire Wound Resistors can be supplied on a case to case basis


## Ordering Procedure: (Ex.: KNP 1W, +/-5\%, 100』, T/B-1000)



* More explanation on part no, please see details on pages 79-80.


## Additional Information:

Performance Specifications

| Temperature coefficient | <20S: $\pm 400 \mathrm{PPM} /{ }^{\circ} \mathrm{C} ; \geq 20 \Omega: \pm 300 \mathrm{PPM} /{ }^{\circ} \mathrm{C}$ | (for KNP Type only) |
| :---: | :---: | :---: |
| Short-time overload | $\Delta R / R \leq \pm(2.0 \%+0.05 \Omega)$, with no evidence of mechanical damage. | $\begin{aligned} & 0=\text { PT }-52 \mathrm{~mm}, \text { NIL for PT-26 } \\ & 8=\text { PT }-58 \mathrm{~mm} \end{aligned}$ |
| Terminal strength | No evidence of mechanical damage. | 9 = PT-64 mm |
| Resistance to soldering heat | $\Delta R / R \leq \pm(1.0 \%+0.05 \Omega)$, with no evidence of mechanical damage. |  |
| Solderability | Min. 95\% coverage |  |
| Load life in humidity | $\Delta R / R \leq \pm(5.0 \%+0.05 \Omega)$, with no evidence of mechanical damage. |  |
| Load life | $\Delta R / R \leq \pm(5.0 \%+0.05 \Omega)$, with no evidence of mechanical damage. |  |
| Dielectric withstanding voltage | No evidence of flashover, mechanical damage, arcing or insulation |  |
| Pulse overload | $\Delta R / R \leq \pm(5.0 \%+0.05 \Omega)$, with no evidence of mechanical damage. |  |
| Temperature cycling | $\Delta R / R \leq \pm(2.0 \%+0.05 \Omega)$, with no evidence of mechanical damage. |  |
| Non-Flame | No evidence of flaming or arcing. |  |

*More details, please see pages 77-78.

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## WIRE-WOUND FIXED RESISTORS

(1) KNP Type


Normal Size

| Part $n o$. | Style | Power Rating at $70^{\circ} \mathrm{C}$ | Dimension (mm) |  |  |  | Resistance Range |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $D \pm 1$ | $L \pm 1$ | $\mathbf{H} \pm 3$ | $d \pm 0.05$ |  |
| KNPOW2 | KNP-50 | 1/2W (0.5W) | 3.5 | 10 | 28 | 0.54 | $0.1 \Omega \sim 39 \Omega$ |
| KNP01W | KNP-100 | 1W | 5 | 12 | 28 | 0.70 | $0.1 \Omega \sim 50 \Omega$ |
| KNP02W | KNP-200 | 2W | 5.5 | 16 | 28 | 0.70 | $0.1 \Omega \sim 120 \Omega$ |
| KNP03W | KNP-300 | 3W | 6.5 | 17.5 | 28 | 0.75 | $0.1 \Omega \sim 200 \Omega$ |
| KNP05W | KNP-500 | 5W | 8.5 | 25 | 38 | 0.75 | $0.5 \Omega \sim 470 \Omega$ |
| KNP07W | KNP-700 | 7W | 8.5 | 30 | 38 | 0.75 | $0.5 \Omega \sim 470 \Omega$ |
| KNP08W | KNP-800 | 8W | 8.5 | 40 | 38 | 0.75 | $1 \Omega \sim 1.5 \mathrm{~K} \Omega$ |
| KNP09W | KNP-900 | 9W | 8.5 | 53 | 38 | 0.75 | $1 \Omega \sim 1.5 \mathrm{~K} \Omega$ |

Smanl §ize

| Part $n o$. | Style | Power Rating at $70^{\circ} \mathrm{C}$ | Dimension (mm) |  |  |  | Resistance Range |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $D \pm 1$ | $L \pm 1$ | $\mathbf{H} \pm 3$ | $d \pm 0.05$ |  |
| KNP01S | KNP-100-S | 1W | 3.5 | 10 | 28 | 0.54 | $0.1 \Omega \sim 39 \Omega$ |
| KNP02S | KNP-200-S | 2W | 5 | 12 | 28 | 0.70 | $0.1 \Omega \sim 50 \Omega$ |
| KNP03S | KNP-300-S | 3W | 5.5 | 16 | 28 | 0.70 | 0.1 $\Omega \sim 120 \Omega$ |
| KNP05S | KNP-500-S | 5W | 6.5 | 17.5 | 28 | 0.75 | $0.1 \Omega \sim 200 \Omega$ |
| KNP07S | KNP-700-S | 7W | 8.5 | 25 | 38 | 0.75 | $0.5 \Omega \sim 470 \Omega$ |
| KNP08S | KNP-800-S | 8W | 8.5 | 30 | 38 | 0.75 | $0.5 \Omega \sim 470 \Omega$ |
| KNP09S | KNP-900-S | 9W | 8.5 | 40 | 38 | 0.75 | $1 \Omega \sim 1.5 \mathrm{~K} \Omega$ |
| KNP0AS | KNP-1000-S | 10W | 8.5 | 53 | 38 | 0.75 | $1 \Omega \sim 1.5 \mathrm{~K} \Omega$ |

Remark : For KNP Series Max Working Voltage : 500V.
Max Overload Voltage : $1,000 \mathrm{~V}$.

## Derating Curve



Heat Rise Chart


## WIRE-WOUND FIXED RESISTORS

(2) KNS Type


| Part No. | Style | Power Rating at $70^{\circ} \mathrm{C}$ | Dimension (mm) |  |  |  |  |  | Resistance Range |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | D Max. | $L \pm 1.5$ | $\mathbf{P} \pm 0.5$ | $\mathrm{H} \pm 1$ | $h \pm 1$ | $\mathrm{B} \pm 0.5$ |  |
| KNS02W | KNS-200 | 2W | 8 | 19 | 8 | 19.0 | 12 | 4.5 | $0.1 \Omega \sim 50 \Omega$ |
| KNS03W | KNS-300 | 3W | 8 | 21 | 10 | 19.0 | 13 | 4.5 | $0.5 \Omega \sim 50 \Omega$ |
| KNS05W | KNS-500 | 5W | 10 | 26 | 15 | 21.5 | 13 | 6.5 | $0.5 \Omega \sim 100 \Omega$ |
| KNS07W | KNS-700 | 7W | 10 | 31 | 20 | 21.5 | 13 | 6.5 | $1 \Omega \sim 1 \mathrm{~K} \Omega$ |
| KNS08W | KNS-800 | 8W | 10 | 41 | 30 | 21.5 | 13 | 6.5 | $1 \Omega \sim 1.5 \mathrm{~K} \Omega$ |
| KNS0AW | KNS-1000 | 10W | 10 | 54 | 43 | 21.5 | 13 | 6.5 | $1 \Omega \sim 2 \mathrm{~K} \Omega$ |

(3) KNH Type


| Part No. | Style | Power Rating <br> at 70 | Dimension (mm) |  |  |  | Resistance <br> Range |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\mathbf{A \pm \mathbf { 1 . 5 }}$ | $\mathbf{B} \pm \mathbf{1 . 5}$ | $\mathbf{C} \pm \mathbf{3}$ | $\mathbf{D \pm \mathbf { 0 . 5 }}$ |  |
| KNH020 | KNH-20W | 20 W | 19 | 50 | 19 | 4.5 | $0.4 \Omega \sim 10 \mathrm{~K} \Omega$ |
| KNH030 | KNH-30W | 30 W | 19 | 75 | 19 | 4.5 | $0.5 \Omega \sim 15 \mathrm{~K} \Omega$ |
| KNH040 | KNH-40W | 40 W | 19 | 90 | 19 | 4.5 | $0.6 \Omega \sim 20 \mathrm{~K} \Omega$ |
| KNH050 | KNH-50W | 50 W | 28 | 75 | 31 | 8 | $3 \Omega \sim 25 \mathrm{~K} \Omega$ |
| KNH060 | KNH-60W | 60 W | 28 | 90 | 31 | 8 | $3 \Omega \sim 30 \mathrm{~K} \Omega$ |
| KNH080 | KNH-80W | 80 W | 28 | 115 | 31 | 8 | $3 \Omega \sim 40 \mathrm{~K} \Omega$ |
| KNH...100 | KNH-100W | 100 W | 28 | 140 | 31 | 8 | $3 \Omega \sim 50 \mathrm{~K} \Omega$ |
| KNHA25 | KNHA-25W | 25 W | 21 | 41 | 24 | 5 | $0.4 \Omega \sim 10 \mathrm{~K} \Omega$ |

