

### Feature (特性)

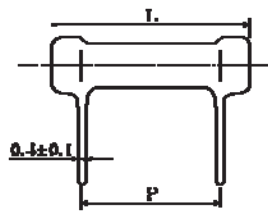
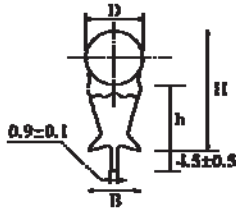
- Excellent flame retardant coating 优异不燃性涂装
- Too low or too high ohmic value can be supplied on a case to case basis  
超低或超高阻值都可特别提供
- Non-Inductive type available 可特别提供无感型产品



### KNP Type (KNP型)



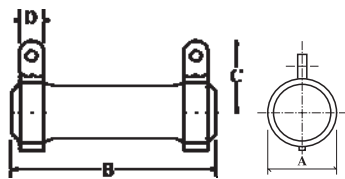
### KNS Type (KNS型)



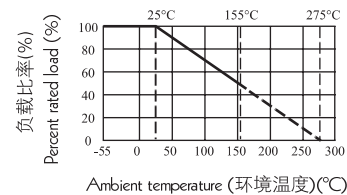
| Part No.<br>料号 | Type<br>类型 | Power Rating<br>功率<br>70°C | Dimension (尺寸)(mm) |         |       |       |       |         | Resistance Range<br>阻值范围 |
|----------------|------------|----------------------------|--------------------|---------|-------|-------|-------|---------|--------------------------|
|                |            |                            | D ± 1.0            | L ± 1.5 | P ± 1 | H ± 1 | h ± 1 | B ± 0.5 |                          |
| KNS02W         | KNS-200    | 2W                         | 7.0                | 19.0    | 8     | 19    | 12    | 4.5     | 0.05Ω ~ 470Ω             |
| KNS03W         | KNS-300    | 3W                         | 7.0                | 21.0    | 10    | 19    | 13    | 4.5     | 0.068Ω ~ 470Ω            |
| KNS05W         | KNS-500    | 5W                         | 9.0                | 26.0    | 15    | 21.5  | 13    | 6.5     | 0.01Ω ~ 750Ω             |
| KNS07W         | KNS-700    | 7W                         | 9.0                | 31.0    | 20    | 21.5  | 13    | 6.5     | 0.1Ω ~ 1.1KΩ             |
| KNS08W         | KNS-800    | 8W                         | 9.0                | 41.0    | 30    | 21.5  | 13    | 6.5     | 0.2Ω ~ 2.2KΩ             |
| KNS0AW         | KNS-1000   | 10W                        | 9.0                | 54.0    | 43    | 21.5  | 13    | 6.5     | 0.3Ω ~ 3.3KΩ             |

| Part No.<br>料号     | Type<br>类型 | Power Rating<br>功率<br>70℃ | Dimension (尺寸)(mm) |       |          |       | Resistance Range<br>阻值范围 |
|--------------------|------------|---------------------------|--------------------|-------|----------|-------|--------------------------|
|                    |            |                           | D ± 1              | L ± 1 | d ± 0.05 | H ± 3 |                          |
| Normal Size (正常尺寸) |            |                           |                    |       |          |       |                          |
| KNP0W4             | KNP-25     | 1/4W                      | 2.5                | 6.5   | 0.55     | 28    | 0.01Ω ~ 200Ω             |
| KNP0W2             | KNP-50     | 1/2W                      | 3.5                | 9.5   | 0.60     | 28    | 0.01Ω ~ 820Ω             |
| KNP01W             | KNP-100    | 1W                        | 4.5                | 11.5  | 0.65     | 28    | 0.01Ω ~ 1.2KΩ            |
| KNP02W             | KNP-200    | 2W                        | 5.5                | 15.5  | 0.70     | 28    | 0.01Ω ~ 3.0KΩ            |
| KNP03W             | KNP-300    | 3W                        | 6.5                | 17.5  | 0.75     | 28    | 0.039Ω ~ 3.9KΩ           |
| KNP05W             | KNP-500    | 5W                        | 8.5                | 24.5  | 0.75     | 38    | 0.082Ω ~ 5.6KΩ           |
| KNP07W             | KNP-700    | 7W                        | 8.5                | 29.5  | 0.75     | 38    | 0.1Ω ~ 8.2KΩ             |
| KNP08W             | KNP-800    | 8W                        | 8.5                | 39.5  | 0.75     | 38    | 0.15Ω ~ 12KΩ             |
| KNP09W             | KNP-900    | 9W                        | 8.5                | 52.5  | 0.75     | 38    | 0.22Ω ~ 15KΩ             |
| Small Size (小型化尺寸) |            |                           |                    |       |          |       |                          |
| KNP0S2             | KNP-50-S   | 1/2W                      | 2.5                | 6.5   | 0.55     | 28    | 0.01Ω ~ 200Ω             |
| KNP01S             | KNP-100-S  | 1W                        | 4.0                | 9.5   | 0.60     | 28    | 0.01Ω ~ 820Ω             |
| KNP02S             | KNP-200-S  | 2W                        | 4.5                | 11.5  | 0.65     | 28    | 0.01Ω ~ 1.2KΩ            |
| KNP03S             | KNP-300-S  | 3W                        | 5.5                | 15.5  | 0.70     | 28    | 0.01Ω ~ 3.0KΩ            |
| KNP05S             | KNP-500-S  | 5W                        | 6.5                | 17.5  | 0.75     | 28    | 0.039Ω ~ 3.9KΩ           |
| KNP07S             | KNP-700-S  | 7W                        | 8.5                | 24.5  | 0.75     | 38    | 0.082Ω ~ 5.6KΩ           |
| KNP08S             | KNP-800-S  | 8W                        | 8.5                | 29.5  | 0.75     | 38    | 0.1Ω ~ 8.2KΩ             |
| KNP09S             | KNP-900-S  | 9W                        | 8.5                | 39.5  | 0.75     | 38    | 0.15Ω ~ 12KΩ             |
| KNP0AS             | KNP-1000-S | 10W                       | 8.5                | 52.5  | 0.75     | 38    | 0.22Ω ~ 15KΩ             |

### KNH Type (KNH型)



### Derating Curve (降功率曲线)



| Part No.<br>料号 | Type<br>类型 | Power Rating<br>功率<br>70°C | Dimension (尺寸)(mm) |         |       |       | Resistance Range<br>阻值范围 |
|----------------|------------|----------------------------|--------------------|---------|-------|-------|--------------------------|
|                |            |                            | A ± 1.5            | B ± 1.5 | C ± 3 | D ± 1 |                          |
| KNH020         | KNH-20W    | 20W                        | 19                 | 50      | 19    | 5     | 0.4Ω ~ 1KΩ               |
| KNH025         | KNH-25W    | 25W                        | 19                 | 60      | 19    | 5     | 0.4Ω ~ 1KΩ               |
| KNH030         | KNH-30W    | 30W                        | 19                 | 75      | 19    | 5     | 0.5Ω ~ 3KΩ               |
| KNH040         | KNH-40W    | 40W                        | 19                 | 90      | 19    | 5     | 0.6Ω ~ 5KΩ               |
| KNH050         | KNH-50W    | 50W                        | 31                 | 75      | 31    | 8     | 3Ω ~ 10KΩ                |
| KNH060         | KNH-60W    | 60W                        | 31                 | 90      | 31    | 8     | 3Ω ~ 15KΩ                |
| KNH080         | KNH-80W    | 80W                        | 31                 | 115     | 31    | 8     | 3Ω ~ 20KΩ                |
| KNH ..... 100  | KNH-100W   | 100W                       | 31                 | 140     | 31    | 8     | 3Ω ~ 30KΩ                |

### Performance Specification (性能)

|                         |        |                                                                     |
|-------------------------|--------|---------------------------------------------------------------------|
| Temperature coefficient | 温度系数   | ≥20Ω: ±300PPM/°C; <20Ω: ±400PPM/°C                                  |
| Short-time overload     | 短时间过负荷 | ΔR/R ≤ ±(2%+0.05Ω), with no evidence of mechanical damage (无可见机械损伤) |
| Terminal strength       | 端子强度   | No evidence of mechanical damage (无可见机械损伤)                          |
| Soldering heat          | 耐焊接热   | ΔR/R ≤ ±(1%+0.05Ω), with no evidence of mechanical damage (无可见机械损伤) |
| Solderability           | 可焊性    | Min. 95% coverage (最少 95% 覆盖率)                                      |
| Load life in humidity   | 湿度寿命   | ΔR/R ≤ ±(5%+0.05Ω), with no evidence of mechanical damage (无可见机械损伤) |
| Load life               | 负载寿命   | ΔR/R ≤ ±(5%+0.05Ω), with no evidence of mechanical damage (无可见机械损伤) |

### Ordering Procedure (Example: KNP 3W-S 5% 12Ω T/B-1000)

订购方式 (例如: KNP 3W-S 5% 12Ω T/B-1000)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |          |                                                                               |          |          |                                                          |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |          |          |                                                                                                     |          |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-------------------------------------------------------------------------------|----------|----------|----------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|-----------------------------------------------------------------------------------------------------|----------|--|
| <b>K</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>N</b> | <b>P</b> | <b>0</b>                                                                      | <b>3</b> | <b>S</b> | <b>J</b>                                                 | <b>0</b>                                            | <b>1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>2</b> | <b>0</b> | <b>A</b> | <b>1</b>                                                                                            | <b>0</b> |  |
| <b>Product Type (产品类型):</b><br>KNP = KNP type<br>KNS = KNS type<br>KNH = KNH type                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          | <b>Special Feature (特征):</b><br>O = Standard (标准品)<br>I = Non-Inductive (无感型) |          |          | <b>Tolerance (公差):</b><br>G = ±2%<br>J = ±5%<br>K = ±10% |                                                     | <b>Resistance Value (阻值):</b><br>5%, 10%(E-24 series)<br>The 1 <sup>st</sup> digit is "O", the 2 <sup>nd</sup> & 3 <sup>rd</sup> digits are for the significant figures of the resistance and the 4 <sup>th</sup> indicate the number of zeros following<br>5% 产品 (E-24 系列阻值):<br>第 1 位数是 O, 第 2、3 位数表示阻值的有效数, 第 4 位表示有几个 O;<br>2%(E-24 series):<br>The 1 <sup>st</sup> digit is "O", the 2 <sup>nd</sup> & 3 <sup>rd</sup> digits are for the significant figures of the resistance and the 4 <sup>th</sup> indicate the number of zeros following;<br>2% 产品 (E-24 系列阻值):<br>第 1-3 位数表示阻值的有效数, 第 4 位数表示有几个 O |          |          |          | <b>Packing Qty. (包装数量):</b><br>1 = 1,000pcs<br>A = 500pcs<br>B = 2,500pcs<br>O = Bulk/Box (散装 / 盒装) |          |  |
| <b>Wattage (功率):</b><br>Normal Size (正常尺寸):<br>W2 = 1/2W   1W = 1W   2W = 2W   3W = 3W   5W = 5W<br>7W = 7W   8W = 8W   9W = 9W   AW = 10W   20 = 20W<br>25 = 25W   30 = 30W   40 = 40W   50 = 50W   60 = 60W<br>80 = 80W<br>Small Size (小尺寸):<br>1S = 1W-S   2S = 2W-S   3S = 3W-S   5S = 5W-S   7S = 7W-S<br>8S = 8W-S   9S = 9W-S   AS = 10W-S<br>*** 00 = for power rating over 100W, please indicate the power rating at the last 3 digits of the part No. (B/B) only.<br>(* ** 00 = 功率超过 100W. 注: B/B 时请注明功率于料号最后三位数) |          |          |                                                                               |          |          |                                                          | <b>Additional Information (注):</b><br>O = NIL (标准品) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |          |          |                                                                                                     |          |  |
| <b>Packing Type (包装类型):</b><br>A = Tape/Box (编带 / 盒装)<br>T = Tape/Reel (编带 / 卷装)<br>B = Bulk/Box (散装 / 盒装)                                                                                                                                                                                                                                                                                                                                                                                                                  |          |          |                                                                               |          |          |                                                          |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |          |          |                                                                                                     |          |  |

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