

## KNC Series Datasheet

Power Shunt Resistor | Axial | Low Inductance and Low Ohmic | Ceramic case

### ORDERING CODE - Example

New SAP Part Nr.:

| KNC   | 600          | J  | B                         | -               | AX-  | OR056   | AA            |
|-------|--------------|--|---------------------------|-----------------|--|---------|---------------|
| Serie | Power rating | Tol.                                     | Pack-Code                 | TCR             | Forming type   | R Value | Special       |
|       |              | F = ±1%<br>G = ±2%<br>H = ±3%<br>J = ±5% | B = Bulk<br>R = Tape Reel | - Base on spec. | AX- = Axial<br>73- Inner Taping dimension or<br>83- Inner Taping dimension |         | AA = Standard |

Historical VTM Part Nr.:

| KN351 - 8 | 5    | B         | OR056   |
|-----------|------|-----------|---------|
| Type      | Tol. | Pack-Code | R Value |

### APPLICATIONS

- Automotive
- Industrial
- Power & Energy

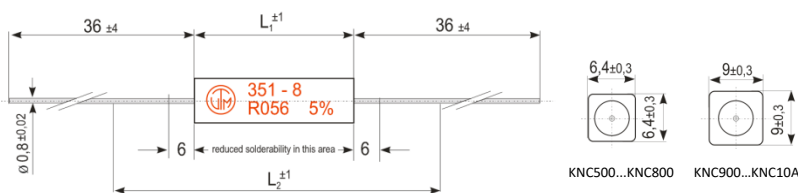
### FEATURES

- All welded construction
- Very low inductance
- High power to size ratio
- Good overload and heat dissipation capability
- Bending options available
- RoHS & REACH Compliant

### ELECTRICAL SPECIFICATIONS

| Type   |                                      | KNC500                            | KNC600    | KNC800    | KNC900    | KNC10A    |       |
|--|--------------------------------------|-----------------------------------|-----------|-----------|-----------|-----------|-------|
| Historical Part Number   |                                      | KN350 - 8                         | KN351 - 8 | KN352 - 8 | KN353 - 8 | KN354 - 8 |       |
| Nominal Power Rating $P_{70}$  | [W]                                  | See next page                     |           |           |           |           |       |
| Resistance Range<br>(Other values upon request)                            | [Ω]                                  | Min.                              | OR003     | OR004     | OR005     | OR004     | OR005 |
|  |                                      | Max.                              | OR051     | OR068     | OR1       | OR068     | OR1   |
| E-Series (preferred)   |                                      | E24 >OR01 (Other upon request)    |           |           |           |           |       |
| Tolerances   | ±[%]                                 | F = 1% ; G = 2% ; H = 3% ; J = 5% |           |           |           |           |       |
| Temperature Coefficient  | ±[10 <sup>-6</sup> K <sup>-1</sup> ] | +200 ... +1200 (Depends on value) |           |           |           |           |       |
| Working Temperature Range  | [°C]                                 | -55 ... +250                      |           |           |           |           |       |
| Thermal Resistance   | [KW <sup>-1</sup> ]                  | 65                                | 50        | 38        | 20        | 18        |       |
| Insulation Resistance<br>IEC60115-1 clause 4.6                             | [MΩ]                                 | > 10 <sup>4</sup>                 |           |           |           |           |       |
| Max. Working Voltage   | [V] <sub>RMS</sub>                   | $\sqrt{P_{70} \times R}$          |           |           |           |           |       |
| Dielectric Withstanding Voltage<br>IEC60115-1 clause 4.7 (1[ <i>min</i> ]) | [V] <sub>RMS</sub>                   | 2000                              |           |           |           |           |       |

### DIMENSIONS [mm]



Measuring length  $L_2$ : Resistance value is measured over the centered length  $L_2$  on terminals free of oxide and contaminations. Differing conditions require adequate corrections ( $R_{terminal} = 0,4 \text{ m}\Omega/\text{cm}$ ).

| New P/Nr. Type | Historical P/N: | $L_1$    | $L_2$ |
|----------------|-----------------|----------|-------|
| KNC500         | KN350 - 8       | 18 ± 1,0 | 40    |
| KNC600         | KN351 - 8       | 25 ± 1,0 | 45    |
| KNC800         | KN352 - 8       | 38 ± 1,0 | 60    |
| KNC900         | KN353 - 8       | 25 ± 1,0 | 45    |
| KNC10A         | KN354 - 8       | 38 ± 1,0 | 60    |

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## PERFORMANCE DATA

| Type  |                                     | KNC500                              | KNC600    | KNC800    | KNC900    | KNC10A    |
|---|-------------------------------------|-------------------------------------|-----------|-----------|-----------|-----------|
| Historical Part Number  |                                     | KN350 - 8                           | KN351 - 8 | KN352 - 8 | KN353 - 8 | KN354 - 8 |
| Derating Linear   | [°C]                                | 70...250 (0W)                       |           |           |           |           |
| Climatic Category   |                                     | 55/200/56                           |           |           |           |           |
| Failure Rate<br><i>(Total, <math>\theta</math>, max, 60[%] cont. lev.)</i>                                    | [10 <sup>-9</sup> h <sup>-1</sup> ] | appr. 10 depends on value           |           |           |           |           |
| Endurance<br><i>IEC60115-1 clause 4.25<br/>(P<sub>70</sub> @ 70[°C], 1000[h])</i>                             | ±[%]                                | 3                                   |           |           |           |           |
| Damp Heat, Steady State<br><i>IEC60115-1 clause 4.24<br/>(40[°C], 93[% r.h.], 56[d])</i>                      | ±[%]                                | 0,5                                 |           |           |           |           |
| Climatic Sequence<br><i>IEC60115-1 clause 4.23</i>  | ±[%]                                | 0,5                                 |           |           |           |           |
| Resistance to Soldering Heat<br><i>IEC60115-1 clause 4.18<br/>(260<sup>±5</sup>[°C], 3,5<sup>±1</sup>[s])</i> | ±[%]                                | 0,2                                 |           |           |           |           |
| Terminal Strength   | ±[%]                                | 0,5                                 |           |           |           |           |
| Terminal Tensile Strength   | [N]                                 | ≥ 25                                |           |           |           |           |
| Solderability<br><i>IEC60068-2-20<br/>(245<sup>±5</sup>[°C] 3<sup>±0,5</sup>[s])</i>                          |                                     | Solder bath method (> 95% coverage) |           |           |           |           |
| Marking<br><i>IEC60062</i>  |                                     | Printed in clear                    |           |           |           |           |

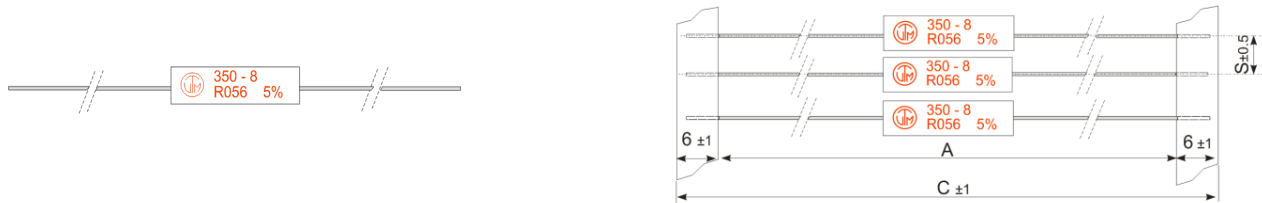
## ELECTRICAL CHARACTERISTICS

| Nominal Power Rating [W] |                  |                  |                                   |
|--------------------------|------------------|------------------|-----------------------------------|
| New P/Nr. Type           | Historical P/Nr: | Resistance Value | Rated Power [W] P <sub>70°C</sub> |
| KNC450                   | KN350 - 8        | OR003            | 4,5                               |
| KNC500                   |                  | OR004 ... OR051  | 5,0                               |
| KNC600                   | KN351 - 8        | OR004 ... OR068  | 6,0                               |
| KNC800                   | KN352 - 8        | OR005 ... OR1    | 8,0                               |
| KNC900                   | KN353 - 8        | OR004 ... OR068  | 9,0                               |
| KNC10A                   | KN354 - 8        | OR005 ... OR1    | 10,0                              |

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## PACKAGING

The standard packaging for KNC in axial type is bulk, dimensions below.



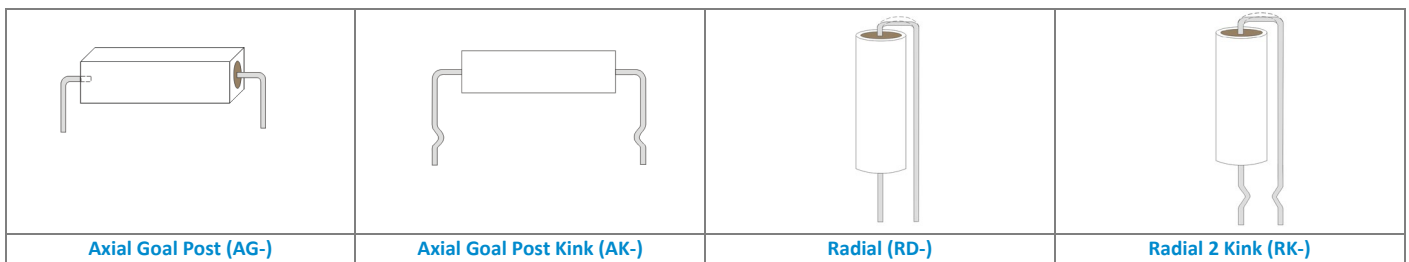
## ALTERNATIVE LEAD CONFIGURATIONS

This type KNC is also available in a different pre-forming, as shown below, other's upon request.

| New P/Nr. Type | Historical P/N: | Pack Code | Pieces | Forming Type |
|----------------|-----------------|-----------|--------|--------------|
| KNC500         | KN350- 8        | B = Bulk  | 200    | AX - Axial   |
| KNC600         | KN351- 8        |           | 200    |              |
| KNC800         | KN352 - 8       |           | 200    |              |
| KNC900         | KN353 - 8       |           | 200    |              |
| KNC10A         | KN354 - 8       |           | 200    |              |

| New P/Nr. Type | Historical P/N: | Pack Code         | Pieces | Forming Type (Inner Taping dim.) | A  | C  | S  |
|----------------|-----------------|-------------------|--------|----------------------------------|----|----|----|
| KNC500         | KN350- 8        | R = Taped in Reel | 1000   | 73- or 83-                       | 73 | 85 | 10 |
| KNC600         | KN351- 8        |                   | 1000   |                                  | 83 | 95 | 10 |
| KNC800         | KN352 - 8       |                   | 1000   |                                  | 83 | 95 | 10 |
| KNC900         | KN353 - 8       |                   | 500    |                                  | 83 | 95 | 10 |
| KNC10A         | KN354 - 8       |                   | 500    |                                  | 83 | 95 | 10 |

## THROUGH HOLE VERSION



For horizontal and vertical pre-forming please consult your local sales contact.