

KHS Series Datasheet

Power Wirewound Resistor | Axial | Fiber glass core | ceramic case

ORDERING CODE-Example

New SAP Part Nr.:

| KHS | 500 | K | B | - | AX- | 150R | AA |
|-------|--------------|-----------------------------|--|------------------------|---|---------|--------------------------|
| Serie | Power rating | Tol. J = ±5% K = ±10% | Pack-Code B = Bulk R = Tape Reel | TCR - Base on spec. | Forming type AX- = Axial 83- Inner Taping dimension | R Value | Special AA = Standard |

Historical VTM Part Nr.:

| KH208 - 8 | 5 | B | 150R |
|-----------|-----------------------------|--|---------|
| Type | Tol. J = ±5% K = ±10% | Pack-Code B = Bulk R = Tape Reel | R Value |

APPLICATIONS

- Automotive
- Charger
- Alternative Energy
- Power Supply
- Home Appliances
- Industrial

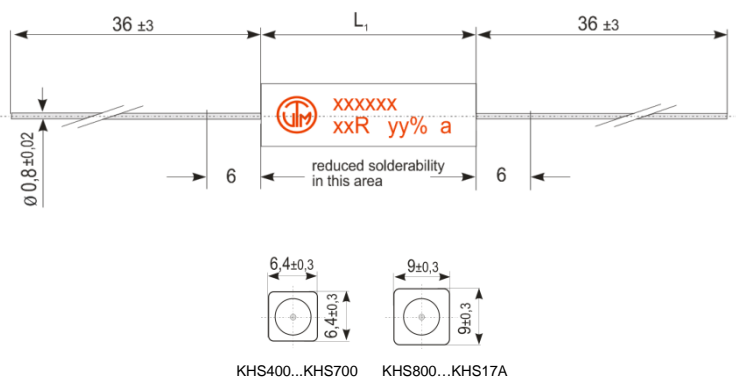
FEATURES

Pulse version available
preforming ; Other preforming available
RoHS Compliant

ELECTRICAL SPECIFICATIONS

| Type | | KHS400 | KHS500 | KHS700 | KHS800 | KHS10A | KHS11A | KHS17A |
|---|--------------------------------------|--|---------|---------|---------|---------|---------|---------|
| Historical Part Number | | KH206-8 | KH208-8 | KH210-8 | KH212-8 | KH214-8 | KH216-8 | KH218-8 |
| Nominal Power Rating P_{70} | [W] | 4 | 5 | 7 | 8 | 10 | 11 | 17 |
| Resistance Range | Min. [Ω] | Please check the table below | | | | | | |
| | Max. [Ω] | 9K1 | 15K | 33K | 15K | 33K | 47K | 82K |
| E-Series (preferred) | | E24 = 5% ; E12 = 10% (Other upon request) | | | | | | |
| Tolerances | ±[%] | J = 5% ; K = 10% | | | | | | |
| Temperature Coefficient | ±[10 ⁻⁶ K ⁻¹] | Depends on the value, please check the table below | | | | | | |
| Working Temperature Range | [°C] | -55 ... +350 | | | | | | |
| Thermal Resistance | [KW ⁻¹] | 70 | 56 | 40 | 35 | 28 | 25 | 16 |
| Insulation Resistance IEC60115-1 clause 4.6 | [MΩ] | > 10 ⁴ | | | | | | |
| Max. Working Voltage | [V] _{RMS} | $\sqrt{P_{70} \times R}$ | | | | | | |
| Dielectric Withstanding Voltage IEC60115-1 clause 4.7 (1[min]) | [V] _{RMS} | 2000 | | | | | | |

DIMENSIONS [mm]



| Type | Historical P/N: | L ₁ |
|--------|-----------------|----------------|
| KHS400 | KH206 - 8 | 20 ±1,0 |
| KHS500 | KH208 - 8 | 25 ±1,0 |
| KHS700 | KH210 - 8 | 38 ±1,0 |
| KHS800 | KH212 - 8 | 25 ±1,0 |
| KHS10A | KH214 - 8 | 38 ±1,0 |
| KHS11A | KH216 - 8 | 50 ±1,5 |
| KHS17A | KH218 - 8 | 75 ±2,0 |

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PERFORMANCE DATA

| Type | | KHS400 | KHS500 | KHS700 | KHS800 | KHS10A | KHS11A | KHS17A |
|---|-------------------------------------|-------------------------------------|---------|---------|---------|---------|---------|---------|
| Historical Part Number | | KH206-8 | KH208-8 | KH210-8 | KH212-8 | KH214-8 | KH216-8 | KH218-8 |
| Derating Linear | [°C] | 70...350 (0W) | | | | | | |
| Climatic Category | | 55/200/21 | | | | | | |
| Failure Rate <i>(Total, ϑ, max, 60[%] cont. lev.)</i> | [10 ⁻⁹ h ⁻¹] | appr. 100 depends on value | | | | | | |
| Endurance <i>IEC60115-1 clause 4.25 (P₇₀, @ 70[°C], 1000[h])</i> | ±[%] | 3 | | | | | | |
| Damp Heat, Steady State <i>IEC60115-1 clause 4.24 (40[°C], 93[% r.h.], 56[d])</i> | ±[%] | 2 | | | | | | |
| Climatic Sequence <i>IEC60115-1 clause 4.23</i> | ±[%] | 2 | | | | | | |
| Resistance to Soldering Heat <i>IEC60115-1 clause 4.18 (260^{±5}[°C], 3,5^{±1}[s])</i> | ±[%] | 0,2 | | | | | | |
| Terminal Strength | ±[%] | 1 | | | | | | |
| Terminal Tensile Strength | [N] | 50 | | | | | | |
| Solderability <i>IEC60068-2-20 (245^{±5}[°C] 3^{±0,5}[s])</i> | | Solder bath method (> 95% coverage) | | | | | | |
| Marking <i>IEC60062</i> | | Printed in clear | | | | | | |

ELECTRICAL CHARACTERISTIC

RESISTANCE RANGE (minimum)

| New P/Nr. Type | Historical P/N: | ± 10 [%] | ± 5 [%] |
|----------------|-----------------|----------|---------|
| KHS400 | KH206 - 8 | OR051 | OR1 |
| KHS500 | KH208 - 8 | OR075 | OR15 |
| KHS700 | KH210 - 8 | OR11 | OR33 |
| KHS800 | KH212 - 8 | OR075 | OR15 |
| KHS10A | KH214 - 8 | OR11 | OR33 |
| KHS11A | KH216 - 8 | OR15 | OR51 |
| KHS17A | KH218 - 8 | OR27 | OR91 |

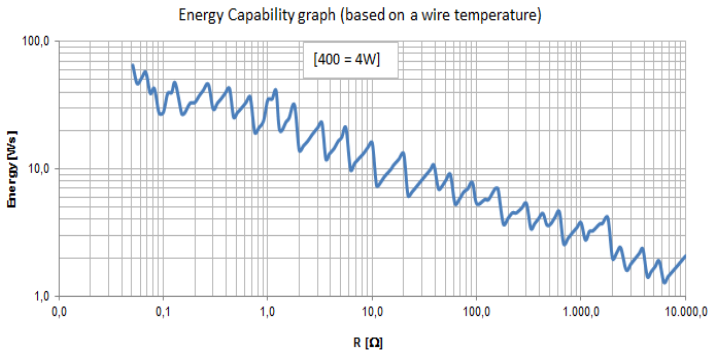
TEMPERATURE COEFFICIENT

| New P/Nr. Type | Historical P/N: | 400 ± 50 ppm/K | | -20 ± 60 ppm/K | | 0 ± 10 ppm/K | |
|----------------|-----------------|----------------|--------|----------------|--------|--------------|-------|
| KHS400 | KH206 - 8 | ≥ OR051 | ≤ OR2 | ≥ OR22 | ≤ 300R | ≥ 330R | ≤ 9K1 |
| KHS500 | KH208 - 8 | ≥ OR075 | ≤ OR3 | ≥ OR33 | ≤ 470R | ≥ 510R | ≤ 15K |
| KHS700 | KH210 - 8 | ≥ OR11 | ≤ OR68 | ≥ OR75 | ≤ 910R | ≥ 1K | ≤ 33K |
| KHS800 | KH212 - 8 | ≥ OR075 | ≤ OR3 | ≥ OR33 | ≤ 470R | ≥ 510R | ≤ 15K |
| KHS10A | KH214 - 8 | ≥ OR11 | ≤ OR68 | ≥ OR75 | ≤ 910R | ≥ 1K | ≤ 33K |
| KHS11A | KH216 - 8 | ≥ OR15 | ≤ 1R | ≥ 1R1 | ≤ 1K3 | ≥ 1K5 | ≤ 47K |
| KHS17A | KH218 - 8 | ≥ OR27 | ≤ 1R6 | ≥ 1R8 | ≤ 2K4 | ≥ 2K7 | ≤ 82K |

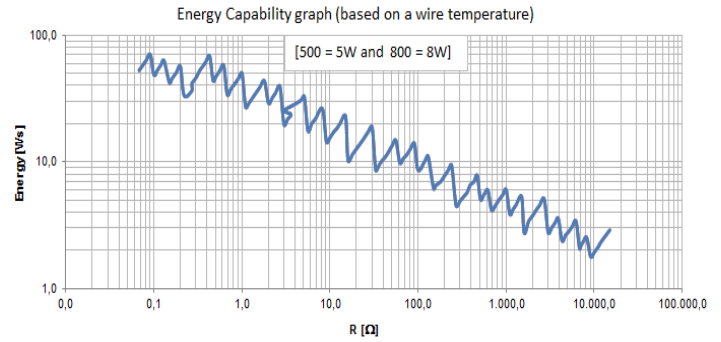
KHS Series Datasheet

PERFORMANCE GRAPH'S

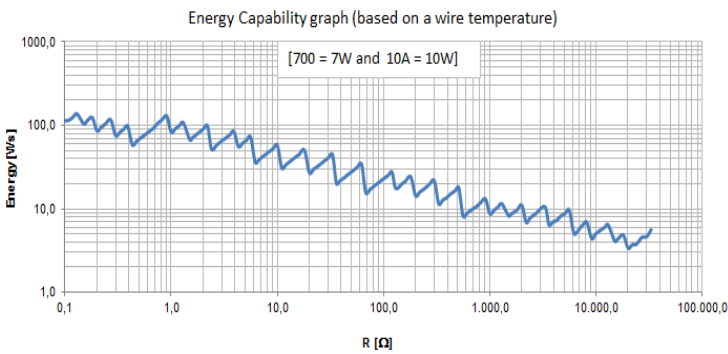
KHS400



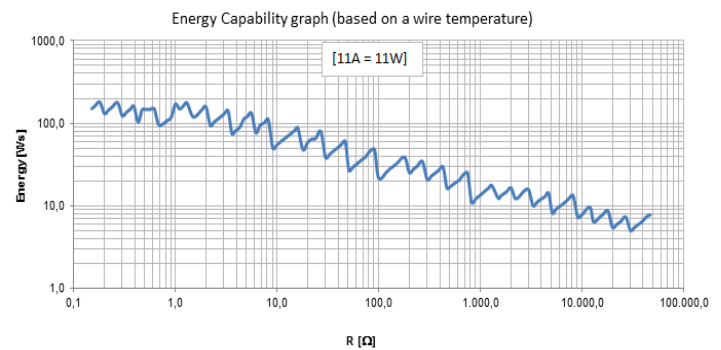
KHS500 and KHS800



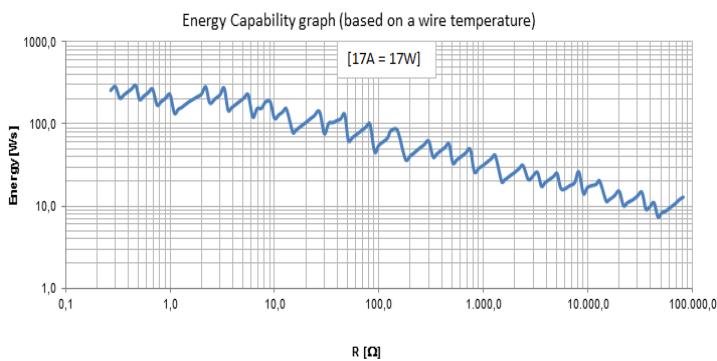
KHS700 and KHS10A



KHS11A



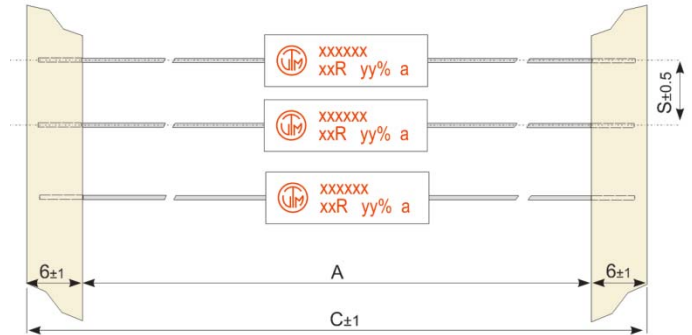
KHS17A



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PACKAGING

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



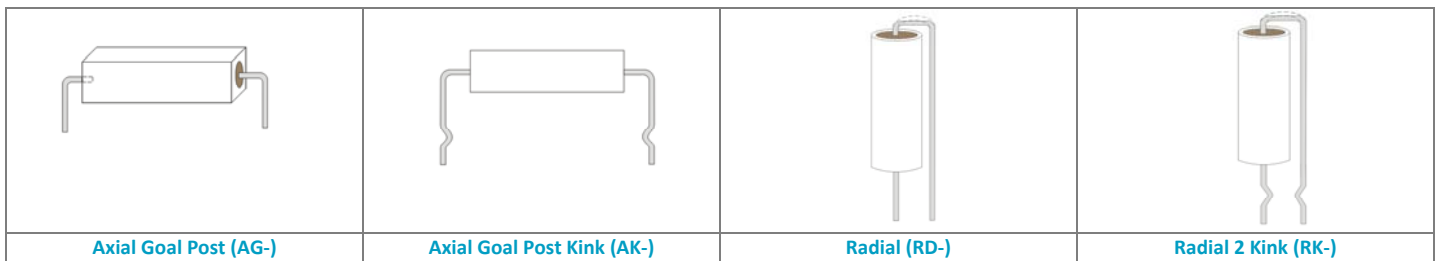
| New P/Nr. Type | Historical P/N: | Pack Code | Pieces | Forming Type |
|----------------|-----------------|-----------|--------|--------------|
| KHS400 | KH206 - 8 | B = Bulk | 200 | AX- = Axial |
| KHS500 | KH208 - 8 | | 200 | |
| KHS700 | KH210 - 8 | | 200 | |
| KHS800 | KH212 - 8 | | 200 | |
| KHS10A | KH214 - 8 | | 100 | |
| KHS11A | KH216 - 8 | | 100 | |
| KHS17A | KH218 - 8 | | 100 | |

| New P/Nr. Type | Historical P/N: | Pack Code | Pieces | Forming Type (Inner Taping dim.) | A | C | S |
|----------------|-----------------|-------------------|--------|----------------------------------|----|----|----|
| KHS400 | KH206 - 8 | R = Taped in Reel | 1000 | 83- | 83 | 95 | 10 |
| KHS500 | KH208 - 8 | | 1000 | | 83 | 95 | 10 |
| KHS700 | KH210 - 8 | | 1000 | | 83 | 95 | 10 |
| KHS800 | KH212 - 8 | | 500 | | 83 | 95 | 10 |
| KHS10A | KH214 - 8 | | 500 | | 83 | 95 | 10 |

ALTERNATIVE LEAD CONFIGURATIONS

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

THROUGH HOLE VERSION



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

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