

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



Industrial



Power & Energy

FEATURES

Pulse version available

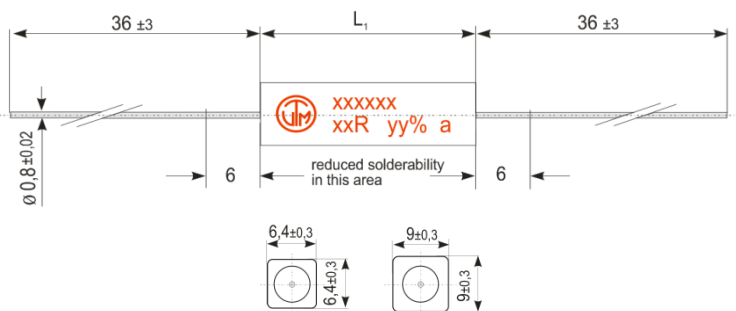
preforming ; Other preforming available

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. | Please check the table below | | | | | | |
| | Max. | 12K | 15K | 33K | 15K | 33K | 47K | 82K |
| | | (Other values upon request) | | | | | | |
| 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]



KHS400...KHS700 KHS800...KHS17A

| 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_o, max, 60[%] cont. lev.)</i> | [10 ⁻⁹ h ⁻¹] | appr. 100 depends on value | | | | | | |
| Endurance <i>IEC60115-1 clause 4.25 (P_{70} @ 70[°C], 1000[h])</i> | ±[%] | 3 | | | | | | |
| Short Time Overload <i>IEC60115-1 clause 4.13 (10 times rated power for 5 seconds)</i> | ±[%] | 2,0 | | | | | | |
| 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 CHARACTERISTICS

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 |

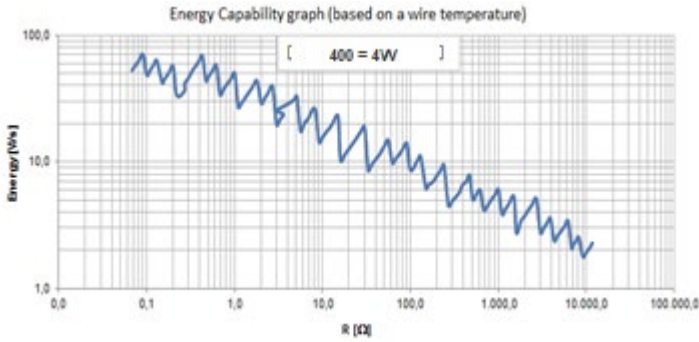
TEMPERATURE COEFFICIENT

| 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 | ≤ 12K |
| 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 |

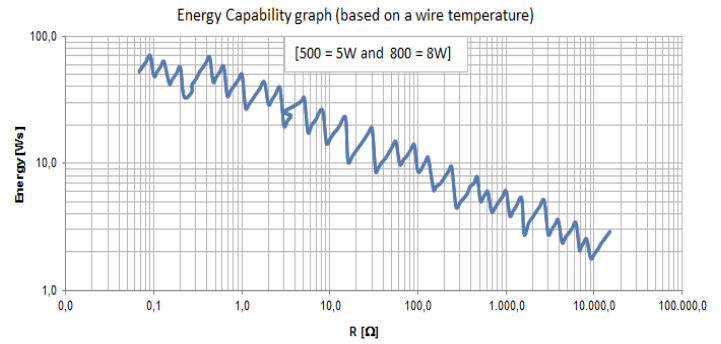
KHS Series Datasheet

PERFORMANCE GRAPHS

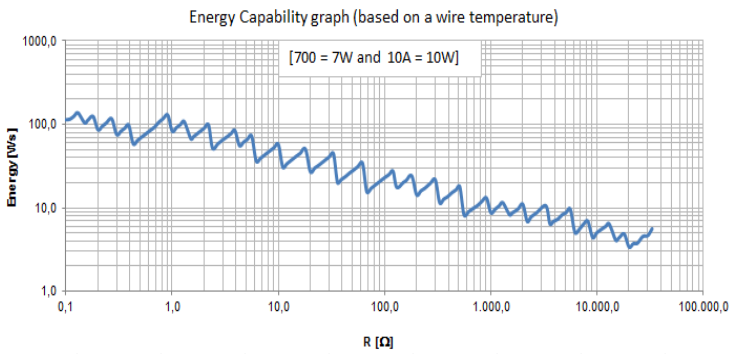
KHS400



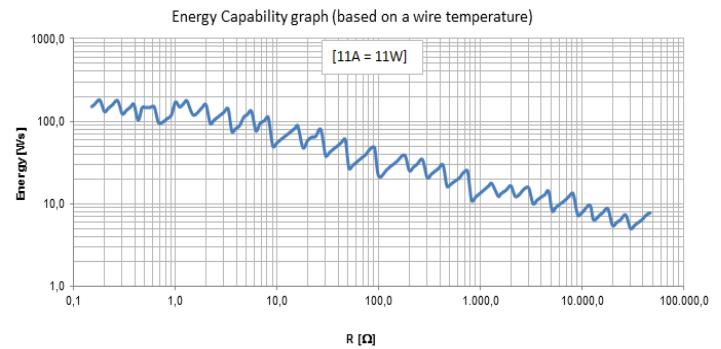
KHS500 and KHS800



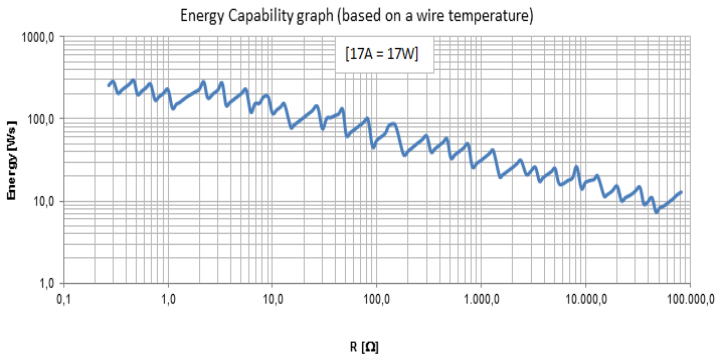
KHS700 and KHS10A



KHS11A



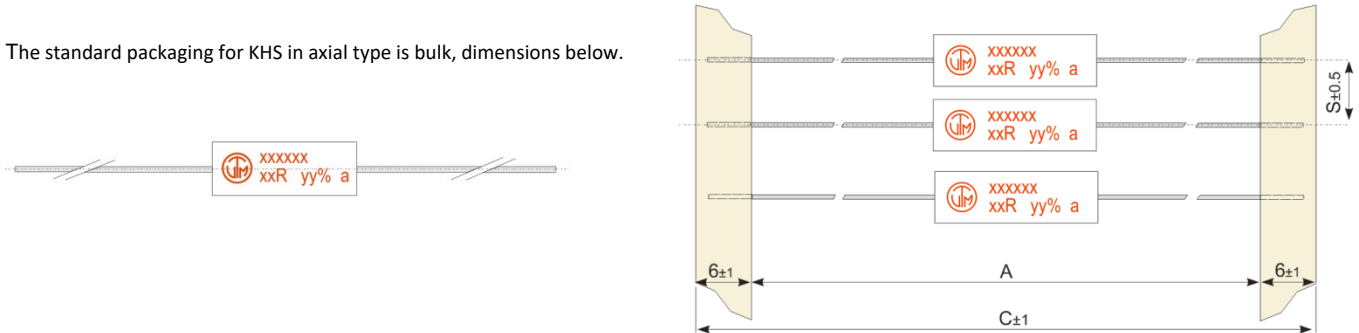
KHS17A



KHS Series Datasheet

PACKAGING

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



ALTERNATIVE LEAD CONFIGURATIONS

This type KHS 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 |
|----------------|-----------------|-----------|--------|--------------|
| 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 |
| | | | 500 | | 83 | 95 | 10 |

THROUGH HOLE VERSION

| | | | |
|-----------------------|----------------------------|--------------|---------------------|
| | | | |
| Axial Goal Post (AG-) | Axial Goal Post Kink (AK-) | Radial (RD-) | Radial 2 Kink (RK-) |

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