

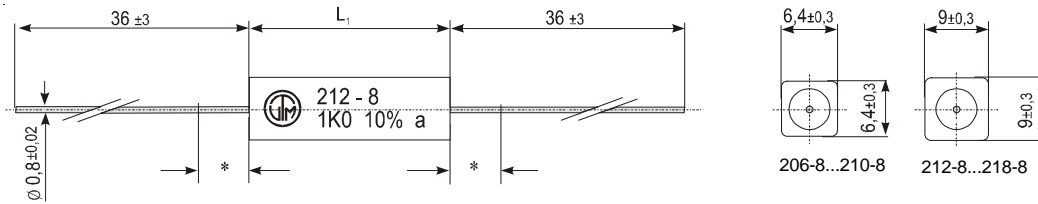
## Power Wirewound Ceramic Resistors, axial



## Specifications

| Type  |                                      | KH206-8  | KH208-8 | KH210-8 | KH212-8 | KH214-8 | KH216-8 | KH218-8 |
|---|--------------------------------------|--|---------|---------|---------|---------|---------|---------|
| Power rating $P_{70}$   | W                                    | 4  | 5       | 7       | 7       | 9       | 11      | 17      |
| Resistance range  | $\Omega$                             | see page 2   |         |         |         |         |         |         |
| E-Series  |                                      | E 24 (5%), E 12 (10%)                              |         |         |         |         |         |         |
| Tolerances  | %                                    | $\pm 5, \pm 10$                                    |         |         |         |         |         |         |
| Temperature coefficient                                       | $10^{-6} \cdot K^{-1}$               | depends on value<br>see table 3                    |         |         |         |         |         |         |
| max. cont. work. voltage                                      | $V_{RMS}$                            | $\sqrt{P_{70} \cdot R}$ for all styles             |         |         |         |         |         |         |
| Insulation voltage (1min.)                                    | $V_{RMS}$                            | 2000   |         |         |         |         |         |         |
| Insulation resistance   | $\Omega$                             | $> 10^4$   |         |         |         |         |         |         |
| Derating linear   | $^{\circ}C$                          | linear 70 ... 350 (0W)                             |         |         |         |         |         |         |
| Climatic category   |                                      | 55/200/21  |         |         |         |         |         |         |
| Temperature range   | $^{\circ}C$                          | - 55 ... 350                                       |         |         |         |         |         |         |
| Thermal resistance  | $KW^{-1}$                            | 65   | 50      | 40      | 40      | 30      | 25      | 15      |
| Failure rate<br>(Total, $\vartheta_o$ , max., 60% conf. lev.) | $10^{-9} \cdot h^{-1}$               | appr. 100, depends on value                        |         |         |         |         |         |         |
| Endurance<br>( $P_{70}$ , 70 $^{\circ}C$ , 1000h)             | $\left[\frac{\Delta R}{R}\right] \%$ | $\pm 3,0$ average                                  |         |         |         |         |         |         |
| Damp heat, steady state<br>(40 $^{\circ}C$ , 93% r.h., 56d)   | $\left[\frac{\Delta R}{R}\right] \%$ | $\pm 2,0$  |         |         |         |         |         |         |
| Climatic sequence   | $\left[\frac{\Delta R}{R}\right] \%$ | $\pm 2,0$  |         |         |         |         |         |         |
| Terminal strength   | $\left[\frac{\Delta R}{R}\right] \%$ | $\pm 1,0$  |         |         |         |         |         |         |
| Terminal tensile strength                                     | N                                    | 50   |         |         |         |         |         |         |
| Resistance to soldering heat<br>(260 $^{\circ}C$ , 10s)       | $\left[\frac{\Delta R}{R}\right] \%$ | $\pm 0,2$ typ.                                     |         |         |         |         |         |         |
| Solderability   | s                                    | 2,5 Flowtime; solderglobule test IEC 60068-2-20-T  |         |         |         |         |         |         |
| Standards   |                                      | CECC 40202-001 and -005 applicable DIN 45921 T 202 |         |         |         |         |         |         |
| Marking   |                                      | Printed in clear                                   |         |         |         |         |         |         |

Dimensions in mm:



\* 6mm, reduced solderability in this area

| Type    | Resistance range |           |     | $L_1$        |
|---------|------------------|-----------|-----|--------------|
|         | 10%              | Min<br>5% | Max |              |
| KH206-8 | 0R056            | 0R1       | 9K1 | $20 \pm 1,0$ |
| KH208-8 | 0R075            | 0R15      | 15K | $25 \pm 1,0$ |
| KH210-8 | 0R11             | 0R33      | 33K | $38 \pm 1,0$ |
| KH212-8 | 0R075            | 0R15      | 15K | $25 \pm 1,0$ |
| KH214-8 | 0R11             | 0R33      | 33K | $38 \pm 1,0$ |
| KH216-8 | 0R15             | 0R51      | 47K | $50 \pm 1,5$ |
| KH218-8 | 0R27             | 0R91      | 82K | $75 \pm 2,0$ |

Temperature coefficient:

| Type  | TC +400 $\pm 50$ ppm K <sup>-1</sup> | TC 0 $\pm 40$ ppm K <sup>-1</sup> | TC 0 $\pm 10$ ppm K <sup>-1</sup> |
|-------|--------------------------------------|-----------------------------------|-----------------------------------|
| KH206 | 0R056 ... 0R2                        | 0R22 ... 300R                     | 330R ... 9K1                      |
| KH208 | 0R075 ... 0R3                        | 0R33 ... 470R                     | 510R ... 15K                      |
| KH210 | 0R11 ... 0R68                        | 0R75 ... 910R                     | 1K0 ... 33K                       |
| KH212 | 0R075 ... 0R3                        | 0R33 ... 470R                     | 510R ... 15K                      |
| KH214 | 0R11 ... 0R68                        | 0R75 ... 910R                     | 1K0 ... 33K                       |
| KH216 | 0R15 ... 1R                          | 1R1 ... 1K3                       | 1K5 ... 47K                       |
| KH218 | 0R27 ... 1R6                         | 1R8 ... 2K4                       | 2K7 ... 82K                       |

Packaging:

| Type    | Packaging | Pieces | Pack.-Code |
|---------|-----------|--------|------------|
| KH206-8 | bulk      | 200    | B          |
|         | taped     | 1000   | R          |
| KH208-8 | bulk      | 200    | B          |
|         | taped     | 1000   | R          |
| KH210-8 | bulk      | 200    | B          |
|         | taped     | 1000   | R          |
| KH212-8 | bulk      | 200    | B          |
|         | taped     | 500    | R          |
| KH214-8 | bulk      | 100    | B          |
|         | taped     | 500    | R          |
| KH216-8 | bulk      | 100    | B          |
| KH218-8 | bulk      | 100    | B          |

Ordering example:

|         |           |            |         |
|---------|-----------|------------|---------|
| KH206-8 | 5         | B          | 9R1     |
| Type    | Tolerance | Pack.-Code | R-Value |