# Leaded Wirewound Resistors, Surface Mount, Cement Coated, High Power




## FEATURES

- SMT compatible termination
- All welded construction
- Ideal for pulsing application
- Ceramic core
- Available on tape and reel
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

RoHS COMPLIANT

HALOGEN FREE Available

GREEN (5-2008) Available

## STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | SIZE | POWER RATING $P_{40\ °C}$ W | RESISTANCE RANGE (1) Ω TCR (-10 to -80) ppm/K (2) (CLASS 1) | RESISTANCE RANGE (1) Ω TCR (100 to 180) ppm/K (CLASS 3) | TOLERANCE ± % | WEIGHT (typical) g |
|---|---|---|---|---|---|---|
| WSZ6720 | 6720 | 1.8 (3) | 1 to 510 | n/a | 1 | 0.6 |
| | | | 0.22 to 510 | n/a | 2 | |
| | | | 0.10 to 510 | 24 to 3.3K | 5 | |
| | | | 0.10 to 510 | 1.8 to 3.3K | 10 | |

**Notes**

(1) Resistance value to be selected for ± 10 % tolerance from E12 and for ± 5 % from E24

(2) TCR ≤ 400 ppm/K for $R \leq 1\ \Omega$

(3) Power rating depends on the maximum temperature at the solder point, solder pad dimensions, the component placement density and the substrate material

(4) For automotive applications, please consider AC03-AT WSZ: www.vishay.com/doc?28730

## PART NUMBER AND PRODUCT DESCRIPTION

**Part Number: WSZ672011509KBM000**

| W | S | Z | 6 | 7 | 2 | 0 | 1 | 1 | 5 | 0 | 9 | K | B | M | 0 | 0 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| MODEL | TCR / MATERIAL | VALUE | TOLERANCE CODE | PACKAGING | SPECIAL |
|---|---|---|---|---|---|
| **WSZ6720** | **1** = (-10 to -80) ppm/K WM 50 class 1<br>**3** = (100 to 180) ppm/K WM 110 class 3 | **3 digit value**<br>**1 digit multiplier**<br>MULTIPLIER<br>**7** = $*10^{-3}$<br>**8** = $*10^{-2}$<br>**9** = $*10^{-1}$<br>**0** = $*10^{0}$<br>**1** = $*10^{1}$<br>**2** = $*10^{2}$<br>**3** = $*10^{3}$ | **F** = ± 1.0 %<br>**G** = ± 2.0 %<br>**J** = ± 5.0 %<br>**K** = ± 10.0 % | **BM** = lead (Pb)-free, tape / reel | 3 digits<br>**000** = standard |

**Product Description: WSZ6720 1 15R 10 % BM**

| WSZ6720 | 1 | 15 R | 10 % | BM |
|---|---|---|---|---|
| TYPE / SIZE | TCR / MATERIAL | VALUE | TOLERANCE CODE | PACKAGING |

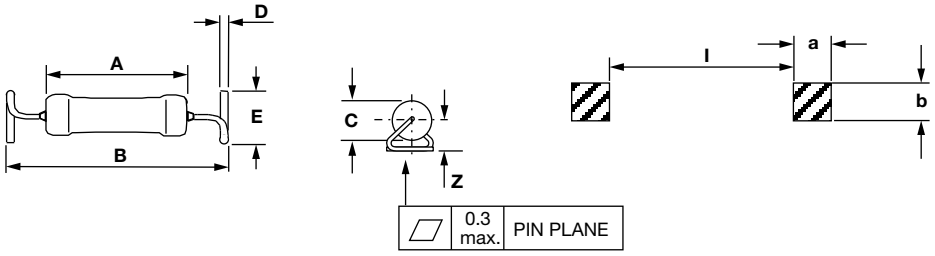


For technical questions, contact: ww1resistors@vishay.com

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## DIMENSIONS




| MODEL | DIMENSIONS in millimeters (inches) | | | | | |
|---|---|---|---|---|---|---|
| | A | B | C | D | E | Z |
| WSZ6720 | 13.2 max. (0.520 max.) | 17 ± 0.5 (0.670) | 4.8 max. (0.189 max.) | 0.8 max. (0.031 max.) | 5 ± 0.5 (0.20 ± 0.02) | 3.6 ± 0.5 (0.142 ± 0.02) |

| MODEL | SOLDER PAD DIMENSIONS in millimeters (inches) | | |
|---|---|---|---|
| | a | b | l |
| WSZ6720 | 10.0 (0.394) | 10.0 (0.394) | 11.5 (0.453) |

## TECHNICAL SPECIFICATIONS

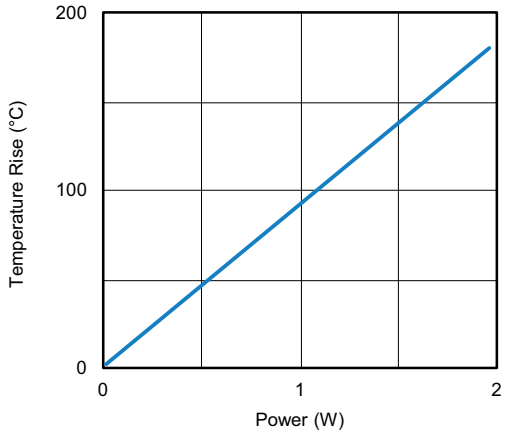
| | | | | | |
|---|---|---|---|---|---|
| Size | 6720 | | | | |
| Resistance Range | 1 Ω to 510 Ω | 0.10 Ω to 510 Ω | 0.22 Ω to 510 Ω | 24 Ω to 3.3 kΩ | 1.8 Ω to 3.3 kΩ |
| Tolerance | ± 1 % | ± 5 %, ± 10 % | ± 2 % | ± 5 % | ± 10 % |
| Temperature Coefficient | -10 ppm/K to -80 ppm/K | | | 100 ppm/K to 180 ppm/K | |
| Rated Dissipation, $P_{40}$ | 1.8 W | | | | |
| Operating Temperature Range | -55 °C to +250 °C | | | | |
| Maximum Working Voltage | $\sqrt{P \times R}$ | | | | |
| Terminal Strength | 45 N minimum | | | | |

## PERFORMANCE

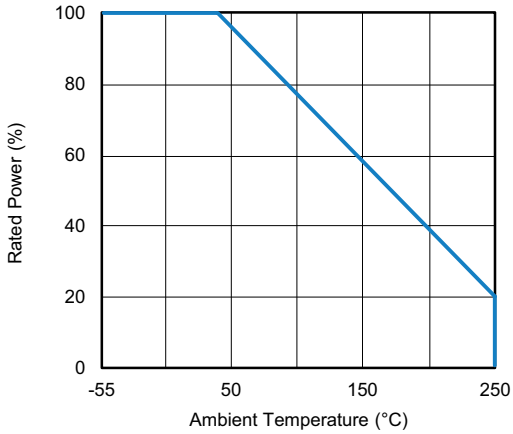
| TEST | CONDITIONS OF TEST | TEST LIMITS $\Delta R_{max.}$ |
|---|---|---|
| Temperature Cycling | -55 °C to +125 °C, 5 cycles, 15 min at each extreme | ± (3 % $R$ + 0.05 Ω) |
| High Temperature Exposure | 1000 h at + 250 °C | ± (3 % $R$ + 0.05 Ω) |
| Short Time Overload | 5 x rated power for 5 s | ± (1 % $R$ + 0.05 Ω) |
| Shock, Specified Pulse | 100 *g*'s for 6 ms, 10 shocks | ± (1 % $R$ + 0.05 Ω) |
| Vibration, High Frequency | Frequency varied 10 Hz to 2000 Hz, 20 *g* peak, 2 directions 6 h each | ± (1 % $R$ + 0.05 Ω) |
| Load Life | 2000 h at rated power, +25 °C, 1.5 h "ON", 0.5 h "OFF" | ± (3 % $R$ + 0.05 Ω) |
| Resistance to Soldering Heat | +260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence | ± (1 % $R$ + 0.05 Ω) |


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## TEMPERATURE RISE (1)




## DERATING




**Note**

(1) Measurement based on recommended solder pads

| PACKAGING | | | | |
|---|---|---|---|---|
| MODEL | REEL | | | |
| | TAPE WIDTH | DIAMETER | PIECES/REEL | CODE |
| WSZ6720 | 24 mm | 330 mm | 1250 | BM |


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