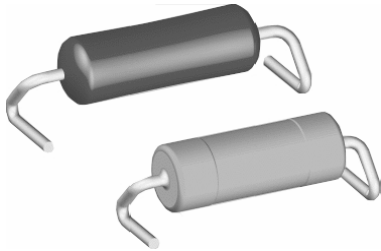


## Wirewound Resistors, Surface Mount, Silicone or Cement Coated, High Power



### FEATURES

- Low cost, high power (up to 3.75 W)
- All welded construction
- Ideal for pulsing application
- Ceramic core
- Available on tape and reel
- AEC-Q200 qualified available <sup>(1)</sup>
- Compliant to RoHS Directive 2002/95/EC

### Note

<sup>(1)</sup> Flame retardance test may not be applicable to some resistor technologies.



| STANDARD ELECTRICAL SPECIFICATIONS |      |   |  |   |  |  |                      |                       |          |
|------------------------------------|------|---|--|---|--|--|----------------------|-----------------------|----------|
| GLOBAL MODEL                       | SIZE | POWER RATING<br>$P_{25^{\circ}\text{C}}$<br>W | RESISTANCE RANGE <sup>(2)</sup> $\Omega$<br>TCR<br>- 10 ... - 80 ppm/K <sup>(3)</sup><br>(CLASS 1) | RESISTANCE RANGE <sup>(2)</sup> $\Omega$<br>TCR<br>100 ... 180 ppm/K<br>(CLASS 3) | RESISTANCE RANGE $\Omega$<br>TCR<br>$\pm 50$ ppm/ $^{\circ}\text{C}$ | RESISTANCE RANGE $\Omega$<br>TCR<br>$\pm 30$ ppm/ $^{\circ}\text{C}$ | TOLERANCE<br>$\pm$ % | WEIGHT (typical)<br>g | ENCAPS.  |
| WSZ6720                            | 6720 | 1.8 <sup>(4)</sup>                            | 1 to 510   | n/a   | n/a  | n/a  | 1                    | 0.6                   | Cement   |
|                                    |      |   | 0.22 to 510  | n/a   | n/a  | n/a  | 2                    |                       |          |
|                                    |      |   | 0.10 to 510  | 24 to 3.3K  | n/a  | n/a  | 5                    |                       |          |
|                                    |      |   | 0.10 to 510  | 1.8 to 3.3K   | n/a  | n/a  | 10                   |                       |          |
| WSZ7532                            | 7532 | 3.75  | n/a  | n/a   | n/a  | 10 to 15K  | 1, 3                 | 0.7                   | Silicone |
|                                    |      |   | n/a  | n/a   | 1 to 9.99  | 10 to 15K  | 5, 10                |                       |          |

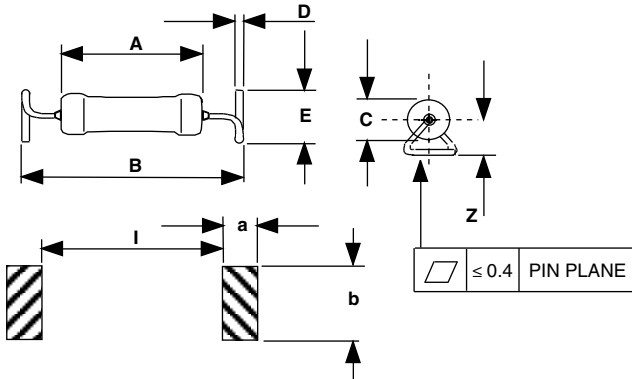
### Notes

- <sup>(2)</sup> Lower TCR or other power range on request. Resistance value to be selected for  $\pm 10$  % tolerance from E12 and for  $\pm 5$  % from E24.  
<sup>(3)</sup>  $\leq 1 \Omega \leq 400$  ppm/K.  
<sup>(4)</sup> Power rating depends on the maximum temperature at the solder point, solder pad dimensions, the component placement density and the substrate material.

| GLOBAL PART NUMBER INFORMATION   |   |   |  |   |   |   |  |   |                                       |   |   |   |   |   |   |   |   |
|--|---|---|--|---|---|---|--|---|---------------------------------------|---|---|---|---|---|---|---|---|
| Global Part Numbering example: <b>WSZ672011509KBM000</b>                               |   |   |  |   |   |   |  |   |                                       |   |   |   |   |   |   |   |   |
| W  | S   | Z | 6  | 7 | 2   | 0 | 1  | 1 | 5                                     | 0 | 9 | K | B | M | 0 | 0 | 0 |
| GLOBAL MODEL<br><b>WSZ6720</b>   | TCR/MATERIAL<br>1 = - 10 ... - 80 ppm/K<br>WM 50<br>Class 1<br>3 = 100 ... 180 ppm/K<br>WM 110<br>Class 3 |   | VALUE<br>3 digit value<br>1 digit multiplier<br>MULTIPLIER<br>7 = $\times 10^{-3}$<br>8 = $\times 10^{-2}$<br>9 = $\times 10^{-1}$<br>0 = $\times 10^0$<br>1 = $\times 10^1$<br>2 = $\times 10^2$<br>3 = $\times 10^3$ |   | TOLERANCE CODE<br>F = $\pm 1.0$ %<br>G = $\pm 2.0$ %<br>J = $\pm 5.0$ %<br>K = $\pm 10.0$ %                                 |   | PACKAGING<br>BM = Lead (Pb)-free, tape/reel<br>LX = Lead (Pb)-free, bulk       |   | SPECIAL<br>3 digits<br>000 = Standard |   |   |   |   |   |   |   |   |
| Historical Part Numbering example: <b>WSZ6720 WM 50 15 <math>\Omega</math> 10 % BM</b> |   |   |  |   |   |   |  |   |                                       |   |   |   |   |   |   |   |   |
| WSZ6720  | WM 50   |   | 15 $\Omega$  |   | 10 %  |   | BM   |   |                                       |   |   |   |   |   |   |   |   |
| HISTORICAL MODEL   | TCR/MATERIAL  |   | VALUE  |   | TOLERANCE CODE  |   | PACKAGING  |   |                                       |   |   |   |   |   |   |   |   |
| Global Part Numbering example: <b>WSZ75321K000JTA</b>                                  |   |   |  |   |   |   |  |   |                                       |   |   |   |   |   |   |   |   |
| W  | S   | Z | 7  | 5 | 3   | 2 | 1  | K | 0                                     | 0 | 0 | J | T | A |   |   |   |
| GLOBAL MODEL<br><b>WSZ7532</b>   | VALUE<br>R = Decimal<br>K = Thousand<br>54R15 = 54.15 $\Omega$<br>1K325 = 1325 $\Omega$                   |   | TOLERANCE CODE<br>F = $\pm 1.0$ %<br>G = $\pm 2.0$ %<br>H = $\pm 3.0$ %<br>J = $\pm 5.0$ %<br>K = $\pm 10$ %   |   | PACKAGING<br>EA = Lead (Pb)-free, tape/reel<br>EK = Lead (Pb)-free, bulk<br>TA = Tin/lead, tape/reel<br>BA = Tin/lead, bulk |   | SPECIAL<br>(Dash number)<br>(Up to 3 digits)<br>From 1 to 999<br>as applicable |   |                                       |   |   |   |   |   |   |   |   |

\* Pb containing terminations are not RoHS compliant, exemptions may apply

\*\* Please see document "Vishay Material Category Policy": [www.vishay.com/doc?99902](http://www.vishay.com/doc?99902)

**DIMENSIONS**


| MODEL   | DIMENSIONS in millimeters [inches] |                     |                   |                   |                          |                             |
|---------|------------------------------------|---------------------|-------------------|-------------------|--------------------------|-----------------------------|
|         | A <sub>max.</sub>                  | B                   | C <sub>max.</sub> | D <sub>nom.</sub> | E                        | Z                           |
| WSZ6720 | 13.2<br>[0.512]                    | 17 ± 0.5<br>[0.670] | 4.8<br>[0.189]    | 0.8<br>[0.031]    | 5 ± 0.5<br>[0.20 ± 0.02] | 3.6 ± 0.5<br>[0.142 ± 0.02] |
| WSZ7532 | 14.27<br>[0.562]                   | 19.86<br>[0.782]    | 4.78<br>[0.188]   | 0.813<br>[0.032]  | 8.18<br>[0.322]          | 6.5<br>[0.256]              |

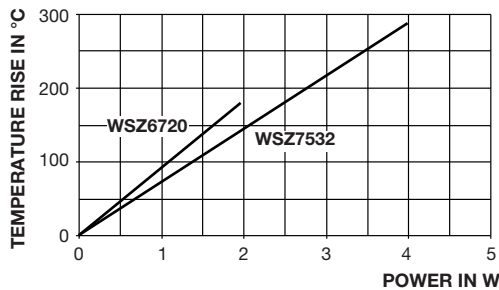
| MODEL   | SOLDER PAD DIMENSIONS in millimeters [inches] |              |               |
|---------|---|--------------|---------------|
|         | a   | b            | l             |
| WSZ6720 | 10 [0.394]                                    | 10 [0.394]   | 14.5 [0.57]   |
| WSZ7532 | 4.0 [0.157]                                   | 9.50 [0.374] | 15.05 [0.593] |

**TECHNICAL SPECIFICATIONS**

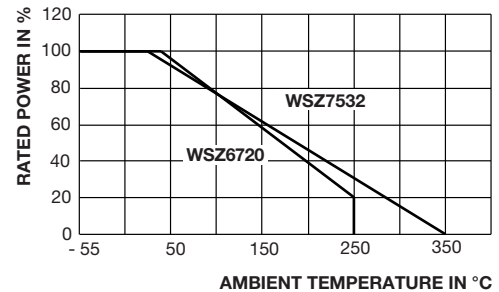
| PARAMETER                   | UNIT   | WSZ6720                                      | WSZ7532       |
|-----------------------------|--------|--|---------------|
| Temperature Coefficient     | ppm/°C | See Standard Electrical Specifications table |               |
| Operating Temperature Range | °C     | - 55 to + 250                                | - 65 to + 350 |
| Maximum Working Voltage     | V      | $(P \times R)^{1/2}$                         |               |
| Terminal Strength           | lb     | 10 minimum                                   |               |

**PERFORMANCE**

| TEST                         | CONDITIONS OF TEST  | TEST LIMITS |                       |
|------------------------------|---|-------------|-----------------------|
|                              |   | WSZ6720     | WSZ7532               |
| Temperature Cycling          | - 55 °C to + 125 °C, 5 cycles, 15 min at each extreme               | ± 3 % ΔR    | ± (2 % + 0.05 Ω) ΔR   |
| High Temperature Exposure    | 1000 h at + 250 °C  | ± 3 % ΔR    | ± (2 % + 0.05 Ω) ΔR   |
| Short Time Overload          | 5 x rated power for 5 s   | ± 1 % ΔR    | ± (2 % + 0.05 Ω) ΔR   |
| Shock, Specified Pulse       | 100 g's for 6 ms, 10 shocks   | ± 1 % ΔR    | ± (2 % + 0.05 Ω) ΔR   |
| Vibration, High Frequency    | Frequency varied 10 Hz to 2000 Hz, 20 g peak, 2 directions 6 h each | ± 1 % ΔR    | ± (2 % + 0.05 Ω) ΔR   |
| Load Life                    | 2000 h at rated power, + 25 °C, 1.5 h "ON", 0.5 h "OFF"             | ± 3 % ΔR    | ± (3 % + 0.05 Ω) ΔR   |
| Resistance to Soldering Heat | + 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence              | ± 1 % ΔR    | ± (0.5 % + 0.05 Ω) ΔR |

**TEMPERATURE RISE**


Measurement based on recommended solder pads

**DERATING**

**PACKAGING**

| MODEL                  | REEL                   |            |             |       |
|------------------------|------------------------|------------|-------------|-------|
|                        | TAPE WIDTH             | DIAMETER   | PIECES/REEL | CODE  |
| WSZ6720                | 24 mm                  | 330 mm     | 1250        | BM    |
| WSZ7532 <sup>(1)</sup> | 32 mm/embossed plastic | 330 mm/13" | 350         | EA/TA |

**Note**
<sup>(1)</sup> Embossed carrier tape per EIA-481.



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