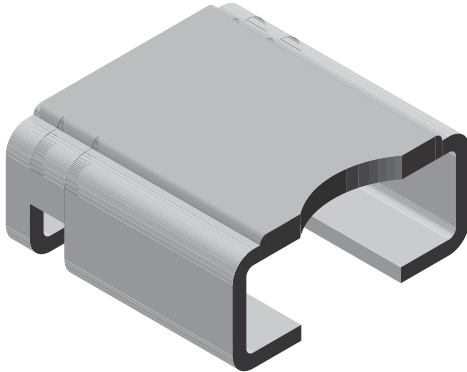


# Power Metal Strip® Resistors, Low Value, High Power, Surface Mount, 4-Terminal



## FEATURES

- 4-Terminal design allows for 1 % tolerance down to 0.0003 Ω
- High power to foot print size ratio
- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifiers and shunts
- Proprietary processing technique produces extremely low resistance values, down to 0.0005 Ω
- All welded construction
- Solid metal nickel-chrome or manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Very low inductance 0.5 nH to 5 nH
- Low thermal EMF (< 3 μV/°C)
- AEC-Q200 qualified available <sup>(1)</sup>
- Compliant to RoHS Directive 2002/95/EC



## Notes

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

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

| STANDARD ELECTRICAL SPECIFICATIONS |      |   |                  |                             |   |                                   |
|------------------------------------|------|---|------------------|-----------------------------|---|-----------------------------------|
| GLOBAL MODEL                       | SIZE | POWER RATING<br>$P_{70\text{ }^\circ\text{C}}$<br>W | TOLERANCE<br>± % | RESISTANCE VALUE RANGE<br>Ω | RESISTANCE VALUES CURRENTLY AVAILABLE <sup>(2)</sup><br>Ω | WEIGHT (typical)<br>g/1000 pieces |
| WSL2726                            | 2726 | 3.0   | 1.0              | 0.3m to 5m                  | 0.3m, 0.5m, 1m, 2m, 3m, 4m, 5m                            | 420                               |

## Notes

- Power rating depends on the max. temperature at the solder point, component placement density and the substrate material.
- Part marking: Model, value, tolerance, date code.
- <sup>(2)</sup> Other values may be available, contact factory.

| TECHNICAL SPECIFICATIONS    |        |   |
|-----------------------------|--------|---|
| PARAMETER                   | UNIT   | RESISTOR CHARACTERISTICS                    |
| Temperature coefficient     | ppm/°C | ± 75 over temperature of + 20 °C to + 60 °C |
| Operating temperature range | °C     | - 65 to + 170                               |
| Maximum working voltage     | V      | $(P \times R)^{1/2}$                        |

| GLOBAL PART NUMBER INFORMATION  |   |   |  |   |   |   |                               |   |   |   |   |  |   |   |  |  |
|---|---|---|--|---|---|---|-------------------------------|---|---|---|---|--|---|---|--|--|
| Global Part Numbering example: WSL2726L5000FEA (WSL2726, 0.0005 Ω, ± 1 %) |   |   |  |   |   |   |                               |   |   |   |   |  |   |   |  |  |
| W   | S | L | 2  | 7 | 2 | 6 | L                             | 5 | 0   | 0 | 0 | F  | E | A |  |  |
| GLOBAL MODEL<br>WSL2726   |   |   | RESISTANCE VALUE<br>L = mΩ<br>L3000 = 0.0003 Ω<br>L5000 = 0.0005 Ω<br>1L000 = 0.0010 Ω<br>2L000 = 0.0020 Ω<br>3L000 = 0.0030 Ω<br>4L000 = 0.0040 Ω<br>5L000 = 0.0050 Ω |   |   |   | TOLERANCE CODE<br>F = ± 1.0 % |   | PACKAGING CODE<br>EA = Lead (Pb)-free, tape/reel<br>EK = Lead (Pb)-free, bulk |   |   | SPECIAL<br>(Dash number)<br>(Up to 2 digits)<br>From 1 to 99 as applicable |   |   |  |  |

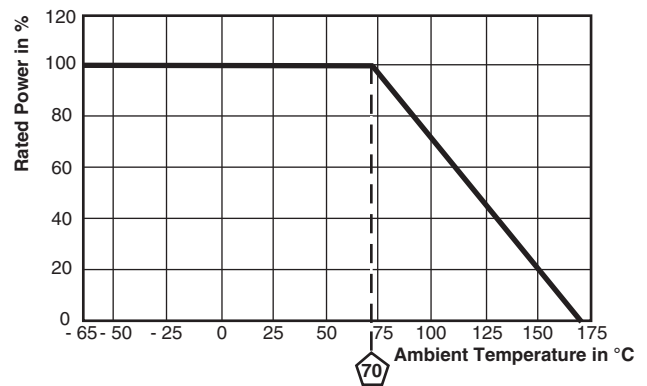
**DIMENSIONS**

| MODEL   | DIMENSIONS in inches (millimeters) |  |                              |                              |                              |                               |                              |
|---------|------------------------------------|--|------------------------------|------------------------------|------------------------------|-------------------------------|------------------------------|
|         | L                                  | W  | H                            | R                            | S                            | T                             | U                            |
| WSL2726 | 0.272 ± 0.008<br>(6.9 ± 0.2)       | 0.260 + 0.012/- 0.008<br>(6.6 + 0.3/- 0.2) | 0.117 ± 0.008<br>(3.0 ± 0.2) | 0.193 ± 0.004<br>(4.9 ± 0.1) | 0.028 ± 0.004<br>(0.7 ± 0.1) | 0.016 ± 0.002<br>(0.4 ± 0.05) | 0.078 ± 0.004<br>(2.0 ± 0.1) |



| MODEL   | SOLDER PAD DIMENSIONS in inches (millimeters) |                 |                 |                 |                |
|---------|---|-----------------|-----------------|-----------------|----------------|
|         | a   | b               | c               | d               | w              |
| WSL2726 | 0.220<br>(5.6)                                | 0.096<br>(2.44) | 0.035<br>(0.89) | 0.035<br>(0.89) | 0.290<br>(7.4) |

| MODEL   | RESISTANCE VALUE (mΩ) | ELEMENT MATERIAL |
|---------|-----------------------|------------------|
| WSL2726 | 0.3                   | Mn-Cu            |
|         | 0.5                   | Mn-Cu            |
|         | 1.0                   | Mn-Cu            |
|         | 2.0                   | Ni-Cr            |
|         | 3.0                   | Ni-Cr            |
|         | 4.0                   | Ni-Cr            |
|         | 5.0                   | Ni-Cr            |

**DERATING**


| PERFORMANCE               |  |                         |
|---------------------------|--|-------------------------|
| TEST                      | CONDITIONS OF TEST   | TEST LIMITS             |
| Thermal shock             | - 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme   | ± (0.5 % + 0.0005 Ω) ΔR |
| Short time overload       | 0.3 mΩ, 0.5 mΩ, 2 mΩ and 3 mΩ - 5 x rated power for 5 s<br>4 mΩ and 5 mΩ - 3 x rated power for 5 s | ± (0.5 % + 0.0005 Ω) ΔR |
| Low temperature operation | - 65 °C for 45 min   | ± (0.5 % + 0.0005 Ω) ΔR |
| High temperature exposure | 1000 h at + 170 °C   | ± (1.0 % + 0.0005 Ω) ΔR |
| Bias humidity             | + 85 °C, 85 % RH, 10 % bias, 1000 h  | ± (0.5 % + 0.0005 Ω) ΔR |
| Mechanical shock          | 100 g's for 6 ms, 5 pulses   | ± (0.5 % + 0.0005 Ω) ΔR |
| Vibration                 | Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h                                     | ± (0.5 % + 0.0005 Ω) ΔR |
| Load life                 | 1000 h at + 70 °C, 1.5 h "ON", 0.5 h "OFF"   | ± (1.0 % + 0.0005 Ω) ΔR |
| Resistance to solder heat | + 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence   | ± (0.5 % + 0.0005 Ω) ΔR |
| Moisture resistance       | MIL-STD-202, method 106, 0 % power, 7b not required  | ± (0.5 % + 0.0005 Ω) ΔR |

| PACKAGING |                        |            |             |      |
|-----------|------------------------|------------|-------------|------|
| MODEL     | REEL                   |            |             |      |
|           | TAPE WIDTH             | DIAMETER   | PIECES/REEL | CODE |
| WSL2726   | 16 mm/embossed plastic | 330 mm/13" | 1500        | EA   |

**Note**

- Embossed Carrier Tape per EIA-481.



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