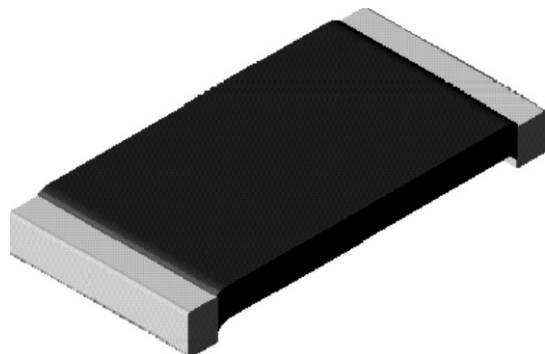


## Power Metal Strip® Resistors, Very High Power (1 W) Low Value (down to 0.001 Ω), Surface Mount



### FEATURES

- Very high power to foot print size ratio (1 W in 1206 package)
- Ideal for all types of current sensing and pulse applications including switching and linear power supplies, instruments, power amplifiers and shunts
- Proprietary processing technique produces extremely low resistance values (down to 0.001 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
- Excellent frequency response to 50 MHz
- Low thermal EMF (< 3 μV/°C)
- Compliant to RoHS directive 2002/95/EC



**RoHS**  
COMPLIANT  
**GREEN**  
(5-2008)\*\*

| STANDARD ELECTRICAL SPECIFICATIONS |   |                       |               |                                      |
|------------------------------------|---|-----------------------|---------------|--------------------------------------|
| GLOBAL MODEL                       | POWER RATING<br>$P_{70^{\circ}\text{C}}$<br>W | RESISTANCE RANGE<br>Ω |               | WEIGHT<br>(typical)<br>g/1000 pieces |
|                                    |   | ± 0.5 %               | ± 1.0 %       |                                      |
| WSLP1206                           | 1.0   | 0.01 to 0.05          | 0.001 to 0.05 | 16.2                                 |

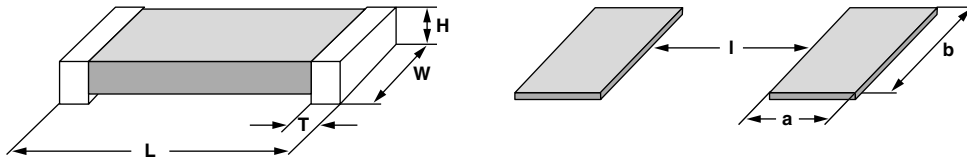
| TECHNICAL SPECIFICATIONS    |        |  |
|-----------------------------|--------|--|
| PARAMETER                   | UNIT   | WSLP 1206  |
| Temperature Coefficient     | ppm/°C | ± 275 for 1 mΩ to 2.9 mΩ, ± 150 for 3 mΩ to 4.9 mΩ<br>± 110 for 5 mΩ to 6.9 mΩ, ± 75 for 7 mΩ to 50 mΩ |
| Operating Temperature Range | °C     | - 65 to + 170  |
| Maximum Working Voltage     | V      | $(P \times R)^{1/2}$   |

**Note**

- Part Marking: Value

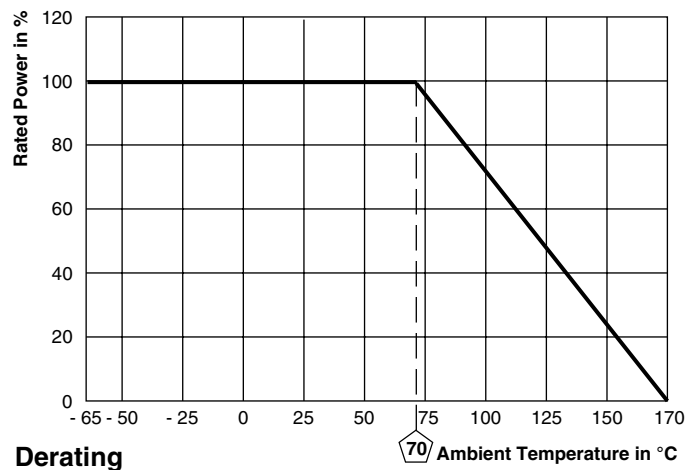
| GLOBAL PART NUMBER INFORMATION              |   |   |   |   |   |   |   |                            |   |   |   |   |   |                              |   |  |  |
|---|---|---|---|---|---|---|---|----------------------------|---|---|---|---|---|------------------------------|---|--|--|
| NEW GLOBAL PART NUMBERING: WSLP1206R0100FEA |   |   |   |   |   |   |   |                            |   |   |   |   |   |                              |   |  |  |
| W   | S | L | P | 1   | 2 | 0 | 6 | R                          | 0 | 1   | 0 | 0 | F | E                            | A |  |  |
| GLOBAL MODEL                                |   |   |   | RESISTANCE VALUE  |   |   |   | TOLERANCE CODE             |   | PACKAGING CODE  |   |   |   | SPECIAL                      |   |  |  |
| WSLP1206                                    |   |   |   | L = mΩ*<br>R = Decimal<br>4L000 = 0.004 Ω<br>R0100 = 0.01 Ω<br><br>* use "L" for resistance values < 0.01 Ω |   |   |   | D = ± 0.5 %<br>F = ± 1.0 % |   | EA = Lead (Pb)-free, tape/reel<br>EK = Lead (Pb)-free, bulk |   |   |   | Reserved for future specials |   |  |  |

\*\* Please see document "Vishay Material Category Policy": [www.vishay.com/doc?999902](http://www.vishay.com/doc?999902)

**DIMENSIONS**


| MODEL    | RESISTANCE RANGE (Ω) | DIMENSIONS in inches [millimeters] |                                |                                  |                                  |
|----------|----------------------|------------------------------------|--------------------------------|----------------------------------|----------------------------------|
|          |                      | L                                  | W                              | H                                | T                                |
| WSLP1206 | 0.001 to 0.0019      | 0.126 ± 0.010<br>[3.2 ± 0.254]     | 0.063 ± 0.010<br>[1.6 ± 0.254] | 0.025 ± 0.010<br>[0.635 ± 0.254] | 0.041 ± 0.010<br>[1.04 ± 0.254]  |
|          | 0.002 to 0.0059      | 0.126 ± 0.010<br>[3.2 ± 0.254]     | 0.063 ± 0.010<br>[1.6 ± 0.254] | 0.025 ± 0.010<br>[0.635 ± 0.254] | 0.025 ± 0.010<br>[0.635 ± 0.254] |
|          | 0.006 to 0.050       | 0.126 ± 0.010<br>[3.2 ± 0.254]     | 0.063 ± 0.010<br>[1.6 ± 0.254] | 0.025 ± 0.010<br>[0.635 ± 0.254] | 0.020 ± 0.010<br>[0.508 ± 0.254] |

| MODEL    | RESISTANCE RANGE (Ω) | SOLDER PAD DIMENSIONS in inches [millimeters] |              |              |
|----------|----------------------|---|--------------|--------------|
|          |                      | a   | b            | l            |
| WSLP1206 | 0.001 to 0.05        | 0.062 [1.57]                                  | 0.070 [1.78] | 0.030 [0.76] |



| 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 |
| 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 |
| WSLP1206  | 8 mm/Embossed Plastic | 178 mm/7" | 4000        | EA   |

**Note**

- Embossed Carrier Tape per EIA-481-2



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