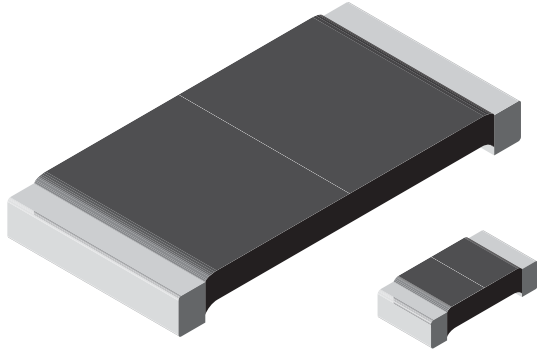




Power Metal Strip® Resistors, High Power (2 x Standard WSL), Low Value (Down to 0.0005 Ω), Surface Mount



FEATURES

- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifiers
Proprietary processing technique produces extremely low resistance values (down to 0.0005 Ω)
Specially selected and stabilized materials allow for high power ratings (2 x standard WSL rating)
All welded construction
Solderable terminations
Very low inductance 0.5 nH to 5 nH
Excellent frequency response to 50 MHz
Solid metal nickel-chrome or manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
Low thermal EMF (< 3 μV/°C)
AEC-Q200 qualified available
Compliant to RoHS Directive 2002/95/EC



Notes

- \* Pb containing terminations are not RoHS compliant, exemptions may apply
\*\* Please see document "Vishay Material Category Policy": www.vishay.com/doc?99902

Table with 6 columns: GLOBAL MODEL, SIZE, POWER RATING (P70°C, W), RESISTANCE VALUE RANGE (Ω), WEIGHT (typical) g/1000 pieces. Rows include WSL0603...18, WSL0805...18, WSL1206...18, WSL2010...18, WSL2512...18.

Note

- Part marking: Value; tolerance: Due to resistor size limitations some resistors will be marked with only the resistance value.

Table with 3 columns: PARAMETER, UNIT, RESISTOR CHARACTERISTICS. Rows include Temperature coefficient, Operating temperature range, Maximum working voltage.

GLOBAL PART NUMBER INFORMATION section including Global Part Numbering example (WSL25124L000FTA18) with a diagram showing the breakdown of W, S, L, 2, 5, 1, 2, 4, L, 0, 0, 0, F, T, A, 1, 8 into GLOBAL MODEL, RESISTANCE VALUE, TOLERANCE CODE, PACKAGING CODE, and SPECIAL. Also includes Historical Part Numbering example (WSL2512-18 0.004 Ω 1 % R86) with a diagram showing the breakdown of WSL2512-18, 0.004 Ω, 1 %, and R86 into HISTORICAL MODEL, RESISTANCE VALUE, TOLERANCE CODE, and PACKAGING CODE.

**DIMENSIONS** in inches (millimeters)


| MODEL        | RESISTANCE RANGE ( $\Omega$ ) | DIMENSIONS                      |                                 |                                  |                                  | SOLDER PAD DIMENSIONS |                 |                 |
|--------------|-------------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|-----------------------|-----------------|-----------------|
|              |                               | L                               | W                               | H                                | T                                | a                     | b               | l               |
| WSL0603...18 | 0.01 to 0.1                   | 0.060 ± 0.010<br>(1.52 ± 0.254) | 0.030 ± 0.010<br>(0.76 ± 0.254) | 0.013 ± 0.010<br>(0.330 ± 0.254) | 0.015 ± 0.005<br>(0.381 ± 0.127) | 0.040<br>(1.01)       | 0.040<br>(1.01) | 0.020<br>(0.50) |
| WSL0805...18 | 0.005 to 0.2                  | 0.080 ± 0.010<br>(2.03 ± 0.254) | 0.050 ± 0.010<br>(1.27 ± 0.254) | 0.013 ± 0.010<br>(0.330 ± 0.254) | 0.015 ± 0.005<br>(0.381 ± 0.127) | 0.040<br>(1.02)       | 0.050<br>(1.27) | 0.020<br>(0.50) |
| WSL1206...18 | 0.001 to 0.0019               | 0.126 ± 0.010<br>(3.20 ± 0.254) | 0.063 ± 0.010<br>(1.60 ± 0.254) | 0.025 ± 0.010<br>(0.635 ± 0.254) | 0.041 ± 0.010<br>(1.04 ± 0.254)  | 0.062<br>(1.57)       | 0.070<br>(1.78) | 0.030<br>(0.76) |
|              | 0.002 to 0.0059               |                                 |                                 |                                  | 0.025 ± 0.010<br>(0.635 ± 0.254) |                       |                 |                 |
|              | 0.006 to 0.20                 |                                 |                                 |                                  | 0.020 ± 0.010<br>(0.508 ± 0.254) |                       |                 |                 |
| WSL2010...18 | 0.001 to 0.0069               | 0.200 ± 0.010<br>(5.08 ± 0.254) | 0.100 ± 0.010<br>(2.54 ± 0.254) | 0.025 ± 0.010<br>(0.635 ± 0.254) | 0.058 ± 0.010<br>(1.47 ± 0.254)  | 0.093<br>(2.36)       | 0.120<br>(3.05) | 0.055<br>(1.40) |
|              | 0.007 to 0.5                  |                                 |                                 |                                  | 0.020 ± 0.010<br>(0.508 ± 0.254) |                       |                 |                 |
| WSL2512...18 | 0.0005 to 0.00099             | 0.250 ± 0.010<br>(6.35 ± 0.254) | 0.125 ± 0.010<br>(3.18 ± 0.254) | 0.025 ± 0.010<br>(0.635 ± 0.254) | 0.107 ± 0.010<br>(2.72 ± 0.254)  | 0.120<br>(3.05)       | 0.145<br>(3.68) | 0.050<br>(1.27) |
|              | 0.001 to 0.0049               |                                 |                                 |                                  | 0.087 ± 0.010<br>(2.21 ± 0.254)  |                       |                 |                 |
|              | 0.005 to 0.0069               |                                 |                                 |                                  | 0.047 ± 0.010<br>(1.19 ± 0.254)  |                       |                 |                 |
|              | 0.007 to 0.04                 |                                 |                                 |                                  | 0.030 ± 0.010<br>(0.762 ± 0.254) |                       |                 |                 |

**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 $\Omega$ ) $\Delta R$ |
| Short time overload       | 5 x rated power for 5 s  | ± (0.5 % + 0.0005 $\Omega$ ) $\Delta R$ |
| Low temperature storage   | - 65 °C for 24 h   | ± (0.5 % + 0.0005 $\Omega$ ) $\Delta R$ |
| High temperature exposure | 1000 h at + 170 °C   | ± (1.0 % + 0.0005 $\Omega$ ) $\Delta R$ |
| Bias humidity             | + 85 °C, 85 % RH, 10 % bias, 1000 h                            | ± (0.5 % + 0.0005 $\Omega$ ) $\Delta R$ |
| Mechanical shock          | 100 g's for 6 ms, 5 pulses                                     | ± (0.5 % + 0.0005 $\Omega$ ) $\Delta R$ |
| Vibration                 | Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h | ± (0.5 % + 0.0005 $\Omega$ ) $\Delta R$ |
| Load life                 | 1000 h at rated power, + 70 °C, 1.5 h "ON", 0.5 h "OFF"        | ± (1.0 % + 0.0005 $\Omega$ ) $\Delta R$ |
| Resistance to solder heat | + 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence         | ± (0.5 % + 0.0005 $\Omega$ ) $\Delta R$ |
| Moisture resistance       | MIL-STD-202, method 106, 0 % power, 7a and 7b not required     | ± (0.5 % + 0.0005 $\Omega$ ) $\Delta R$ |

| PACKAGING    |                        |           |             |      |
|--------------|------------------------|-----------|-------------|------|
| MODEL        | REEL                   |           |             |      |
|              | TAPE WIDTH             | DIAMETER  | PIECES/REEL | CODE |
| WSL0603...18 | 8 mm/punched paper     | 178 mm/7" | 5000        | EA   |
| WSL0805...18 | 8 mm/punched paper     | 178 mm/7" | 5000        | EA   |
| WSL1206...18 | 8 mm/embossed plastic  | 178 mm/7" | 4000        | EA   |
| WSL2010...18 | 12 mm/embossed plastic | 178 mm/7" | 4000        | EA   |
| WSL2512...18 | 12 mm/embossed plastic | 178 mm/7" | 2000        | EA   |

**Note**

- Embossed Carrier Tape per EIA-481.



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## Material Category Policy

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- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Консультации по применению компонента;
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- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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