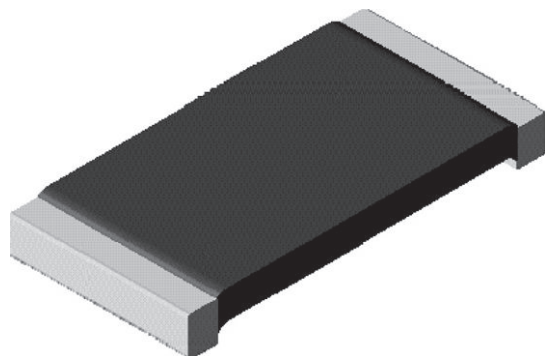


## Power Metal Strip® Resistors High Temperature (275 °C), High Power (1 W), Low Value (down to 0.01 Ω), Surface Mount



### FEATURES

- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments and power amplifiers
- Proprietary processing technique produces extremely low resistance values
- Specially selected and stabilized materials allow for high temperature derating (to + 275 °C) and high power ratings (2 x standard WSL rating)
- All welded construction
- Solid metal nickel-chrome alloy resistive element with low TCR (< 20 ppm/°C)
- Very low inductance (< 5 nH)
- Excellent frequency response to 50 MHz
- Low thermal EMF (< 3 μV/°C)
- Compliant to RoHS directive 2002/95/EC



**RoHS**  
COMPLIANT  
**GREEN**  
(5-2009)\*\*

| STANDARD ELECTRICAL SPECIFICATIONS |      |   |                 |                                |                                      |
|------------------------------------|------|---|-----------------|--------------------------------|--------------------------------------|
| GLOBAL MODEL                       | SIZE | POWER RATING<br>$P_{70^{\circ}\text{C}}$<br>W | TOLERANCE<br>%  | RESISTANCE<br>VALUE RANGE<br>Ω | WEIGHT<br>(typical)<br>g/1000 pieces |
| WSLT2010...18                      | 2010 | 1.0   | ± 0.5 and ± 1.0 | 0.01 to 0.50                   | 38.9                                 |

| TECHNICAL SPECIFICATIONS    |        |                          |
|-----------------------------|--------|--------------------------|
| PARAMETER                   | UNIT   | RESISTOR CHARACTERISTICS |
| Temperature coefficient     | ppm/°C | ± 75                     |
| Inductance                  | nH     | < 5                      |
| Operating temperature range | °C     | - 65 to + 275            |
| Maximum continuous current  | A      | $(P/R)^{1/2}$            |

| GLOBAL PART NUMBER INFORMATION            |   |                               |   |   |                            |   |   |   |   |   |                          |   |   |   |   |   |   |
|---|---|-------------------------------|---|---|----------------------------|---|---|---|---|---|--------------------------|---|---|---|---|---|---|
| Global Part Numbering: WSLT2010R0100FEA18 |   |                               |   |   |                            |   |   |   |   |   |                          |   |   |   |   |   |   |
| W   | S | L                             | T | 2 | 0                          | 1 | 0 | R   | 0 | 1 | 0                        | 0 | F | E | A | 1 | 8 |
| GLOBAL MODEL                              |   | RESISTANCE VALUE              |   |   | TOLERANCE CODE             |   |   | PACKAGING CODE  |   |   | SPECIAL                  |   |   |   |   |   |   |
| WSLT2010                                  |   | R = Decimal<br>R0100 = 0.01 Ω |   |   | D = ± 0.5 %<br>F = ± 1.0 % |   |   | EA = Lead (Pb)-free, tape/reel<br>EK = Lead (Pb)-free, bulk |   |   | 18 = "High power" option |   |   |   |   |   |   |

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

Power Metal Strip® Resistors  
 High Temperature (275 °C), High Power (1 W),  
 Low Value (down to 0.01 Ω), Surface Mount

Vishay Dale

**DIMENSIONS** in inches (millimeters)


| MODEL         | DIMENSIONS                      |                                 |                                  |                                  | SOLDER PAD DIMENSIONS |                 |                 |
|---------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|-----------------------|-----------------|-----------------|
|               | L                               | W                               | H                                | T                                | a                     | b               | l               |
| WSLT2010...18 | 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) | 0.020 ± 0.010<br>(0.508 ± 0.254) | 0.055<br>(1.40)       | 0.120<br>(3.05) | 0.130<br>(3.30) |

**DERATING**


| PERFORMANCE               |  |             |
|---------------------------|--|-------------|
| TEST                      | CONDITIONS OF TEST   | TEST LIMITS |
| Thermal shock             | - 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme       | ± 0.5 % ΔR  |
| Short time overload       | 5 x rated power for 5 s  | ± 0.5 % ΔR  |
| Low temperature operation | - 65 °C for 45 min   | ± 0.5 % ΔR  |
| High temperature exposure | 1000 h at + 275 °C   | ± 2.0 % ΔR  |
| Bias humidity             | + 85 °C, 85 % RH, 10 % bias, 1000 h                            | ± 0.5 % ΔR  |
| Mechanical shock          | 100 g's for 6 ms, 5 pulses                                     | ± 0.5 % ΔR  |
| Vibration                 | Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h | ± 0.5 % ΔR  |
| Load life at 70 °C        | 1000 h, 1.5 h "ON", 0.5 h "OFF"                                | ± 1.0 % ΔR  |
| Load life at 150 °C       | 1000 h, 1.5 h "ON", 0.5 h "OFF"                                | ± 1.0 % ΔR  |
| Resistance to solder heat | 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence           | ± 0.5 % ΔR  |
| Moisture resistance       | MIL-STD-202, method 106, 0 % power, 7b not required            | ± 1.0 % ΔR  |

| PACKAGING     |                        |           |             |      |
|---------------|------------------------|-----------|-------------|------|
| MODEL         | REEL                   |           |             |      |
|               | TAPE WIDTH             | DIAMETER  | PIECES/REEL | CODE |
| WSLT2010...18 | 12 mm/embossed plastic | 178 mm/7" | 4000        | EA   |

**Note**

- Embossed carrier tape per EIA-481-2.



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