

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



| STANDARD ELECTRICAL SPECIFICATIONS | | | | | |
|------------------------------------|------|---|-----------------|--------------------------------|--------------------------------------|
| GLOBAL MODEL | SIZE | POWER RATING $P_{70^{\circ}\text{C}}$ W | TOLERANCE % | RESISTANCE VALUE RANGE Ω | WEIGHT (typical) 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 R0100 = 0.01 Ω | | | D = ± 0.5 % F = ± 1.0 % | | | EA = Lead (Pb)-free, tape/reel EK = Lead (Pb)-free, bulk | | | 18 = "High power" option | | | | | | |

** Please see document "Vishay Material Category Policy": 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 (5.08 ± 0.254) | 0.100 ± 0.010 (2.54 ± 0.254) | 0.025 ± 0.010 (0.635 ± 0.254) | 0.020 ± 0.010 (0.508 ± 0.254) | 0.055 (1.40) | 0.120 (3.05) | 0.130 (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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