

## Power Metal Strip® Resistors, High Temperature (275 °C), Low Value (down to 0.01 Ohm), 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
- All welded construction
- Specially selected and stabilized materials allow for high temperature derating (to + 275 °C)
- 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
- AEC-Q200 qualified available <sup>(1)</sup>

 AUTOMOTIVE  
GRADE  
Available

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

### Note

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

### Note

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

### 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 |
|--------------|------|---|------------------|--------------------------------|--------------------------------------|
| WSLT2512     | 2512 | 1.0   | 0.5, 1.0         | 0.01 to 0.50                   | 63.6                                 |

### Note

- Part marking: DALE, value, tolerance code.

### 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 example: WSLT2512R0100FEA

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| W | S | L | T | 2 | 5 | 1 | 2 | R | 0 | 1 | 0 | 0 | F | E | A |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|

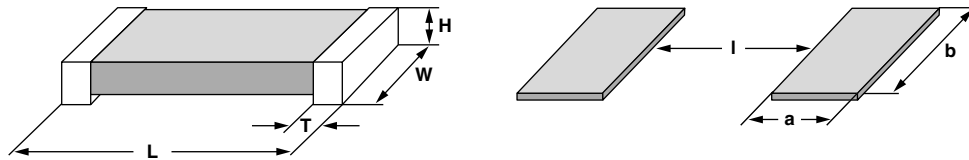
|                 |
|-----------------|
| GLOBAL MODEL    |
| <b>WSLT2512</b> |

|   |
|---|
| RESISTANCE VALUE                            |
| <b>R</b> = Decimal<br><b>R0100</b> = 0.01 Ω |

|  |
|--|
| TOLERANCE CODE                           |
| <b>D</b> = ± 0.5 %<br><b>F</b> = ± 1.0 % |

|   |
|---|
| PACKAGING CODE  |
| <b>EA</b> = Lead (Pb)-free, tape/reel<br><b>EK</b> = Lead (Pb)-free, bulk |

|                              |
|------------------------------|
| SPECIAL                      |
| Reserved for future specials |

**DIMENSIONS** in inches (millimeters)


| MODEL    | DIMENSIONS                      |                                 |                                  |                                  | SOLDER PAD DIMENSIONS |                 |                 |
|----------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|-----------------------|-----------------|-----------------|
|          | L                               | W                               | H                                | T                                | a                     | b               | l               |
| WSLT2512 | 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) | 0.030 ± 0.010<br>(0.762 ± 0.254) | 0.065<br>(1.65)       | 0.145<br>(3.68) | 0.160<br>(4.06) |

**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   | ± 1.0 % 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 |
| WSLT2512  | 12 mm/embossed plastic | 178 mm/7" | 2000        | EA   |

**Note**

- Embossed Carrier Tape per EIA-481.



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