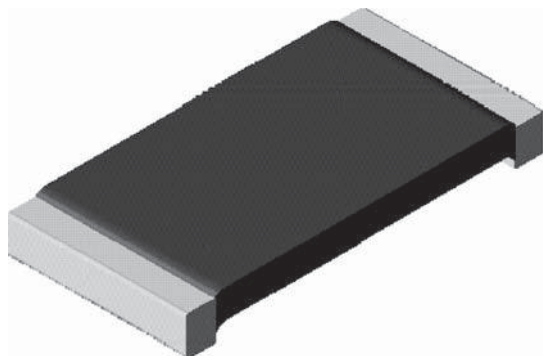


# Power Metal Strip® Resistors, High Temperature (275 °C), Low Value (down to 0.01 Ω), Surface Mount



## 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
- 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)
- AEC-Q200 qualified available <sup>(1)</sup>
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

AUTOMOTIVE  
GRADE  
Available



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

## Note

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

## STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | SIZE | POWER RATING<br>$P_{70\text{ }^{\circ}\text{C}}$<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                     |
| Element TCR                 | ppm/°C | < 20                     |
| 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

WSLT2512

RESISTANCE VALUE

R = Decimal  
R0100 = 0.01 Ω

TOLERANCE CODE

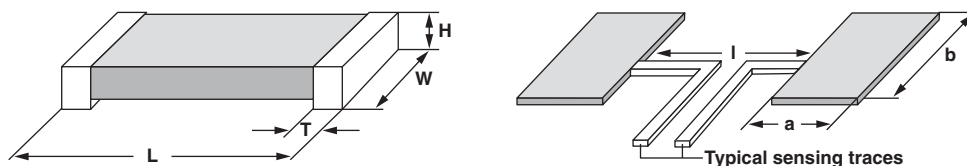
D = ± 0.5 %  
F = ± 1.0 %

PACKAGING CODE

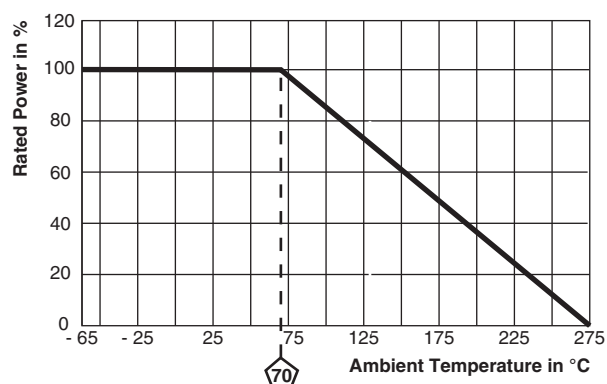
EA = Lead (Pb)-free, tape/reel  
EK = Lead (Pb)-free, bulk

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

| 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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