

Power Metal Strip® Resistors, Very High Power (1 W), Low Value (down to 0.005 Ω), Surface Mount



FEATURES

- Very high power to foot print size ratio (1 W in 0805 package)
- Ideal for all types of current sensing and pulse applications including switching and linear power supplies, instruments, power amplifiers and shunts
- Proprietary processing technique produces extremely low resistance values (down to 0.005 Ω)
- All welded construction
- Solid metal nickel-chrome or manganese- copper alloy resistive element with low TCR (< 20 ppm/°C)
- Very low inductance 0.5 nH to 5 nH
- Excellent frequency response to 50 MHz
- Low thermal EMF (< 3 μV/°C)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | SIZE | POWER RATING $P_{70^{\circ}\text{C}}$ W | TOLERANCE ± % | RESISTANCE VALUE RANGE Ω | WEIGHT (typical) g/1000 pieces |
|---------------|------|-----------------------------------------------|------------------|-----------------------------|--------------------------------------|
| WSLP0805...18 | 0805 | 1.0 | 1.0, 5.0 | 0.005 to 0.01 | 4.8 |

TECHNICAL SPECIFICATIONS

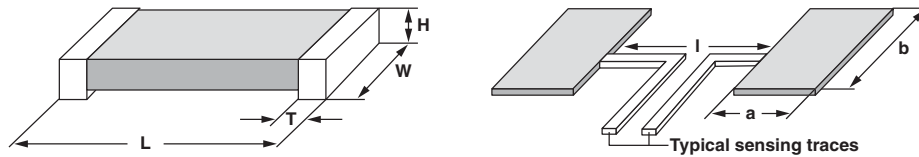
| PARAMETER | UNIT | RESISTOR CHARACTERISTICS |
|-----------------------------|--------|--------------------------------------------------|
| Temperature coefficient | ppm/°C | ± 110 for 5 mΩ to 6.9 mΩ, ± 75 for 7 mΩ to 10 mΩ |
| Element TCR | ppm/°C | < 20 |
| Operating temperature range | °C | -65 to +170 |
| Maximum working voltage | V | $(P \times R)^{1/2}$ |

GLOBAL PART NUMBER INFORMATION

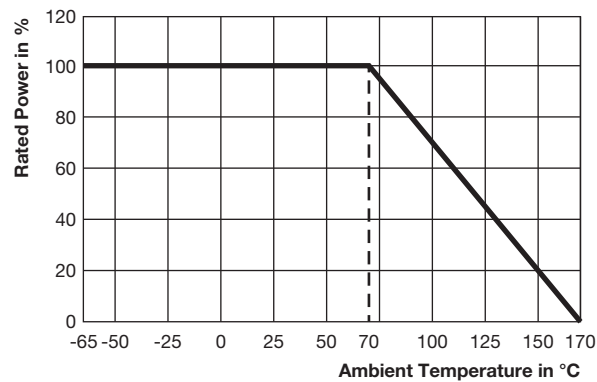
Global Part Numbering example: WSLP0805R0100FEA18

W S L P 0 8 0 5 R 0 1 0 0 F E A 1 8

| GLOBAL MODEL | RESISTANCE VALUE | TOLERANCE CODE | PACKAGING CODE | SPECIAL |
|--------------|-------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------------------------------------------|--------------------------|
| WSLP0805 | L = mΩ* R = Decimal 5L000 = 0.005 Ω R0100 = 0.01 Ω * Use "L" for resistance values < 0.01 Ω | F = ± 1.0 % J = ± 5.0 % | EA = Lead (Pb)-free, tape/reel EK = Lead (Pb)-free, bulk pack | 18 = "High power" option |

DIMENSIONS


| MODEL | DIMENSIONS in inches (millimeters) | | | | SOLDER PAD DIMENSIONS in inches (millimeters) | | |
|--------------|------------------------------------|---------------------------------|----------------------------------|----------------------------------|-----------------------------------------------|-----------------|-----------------|
| | L | W | H | T | a | b | l |
| WSP0805...18 | 0.080 ± 0.010 (2.03 ± 0.254) | 0.050 ± 0.010 (1.27 ± 0.254) | 0.013 ± 0.010 (0.330 ± 0.254) | 0.015 ± 0.010 (0.381 ± 0.254) | 0.040 (1.02) | 0.050 (1.27) | 0.020 (0.50) |

DERATING


| PERFORMANCE | | |
|---------------------------|----------------------------------------------------------------|-------------|
| TEST | CONDITIONS OF TEST | TEST LIMITS |
| Thermal shock | -55 °C to +150 °C, 1000 cycles, 15 min at each extreme | ± 0.5 % |
| Short time overload | 5x rated power for 5 s | ± 1.0 % |
| Low temperature operation | -65 °C for 45 min | ± 0.5 % |
| High temperature exposure | 1000 h at +170 °C | ± 1.0 % |
| Bias humidity | +85 °C, 85 % RH, 10 % bias, 1000 h | ± 0.5 % |
| Mechanical shock | 100 g's for 6 ms, 5 pulses | ± 0.5 % |
| Vibration | Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h | ± 0.5 % |
| Load life | 1000 h at 70 °C, 1.5 h "ON", 0.5 h "OFF" | ± 1.0 % |
| Resistance to solder heat | +260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence | ± 0.5 % |
| Moisture resistance | MIL-STD-202, method 106, 0 % power, 7b not required | ± 0.5 % |

| PACKAGING | | | | |
|--------------|--------------------|-----------|-------------|------|
| MODEL | REEL | | | |
| | TAPE WIDTH | DIAMETER | PIECES/REEL | CODE |
| WSP0805...18 | 8 mm/punched paper | 178 mm/7" | 5000 | EA |

Note

- Embossed Carrier Tape per EIA-481.



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