

Power Metal Strip® Resistors, High Power (7 W) Low Value (down to 0.001 Ω), Surface Mount



FEATURES

- Improved thermal management incorporated into design
- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifier
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Very low inductance (< 5 nH)
- Solid metal nickel-chrome or manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Excellent frequency response to 50 MHz
- Low thermal EMF (< 3 μV/°C)
- AEC-Q200 qualified ⁽¹⁾
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



Note

⁽¹⁾ Flame retardance test may not be applicable to some resistor technologies.

STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | SIZE | POWER RATING $P_{70\text{ }^\circ\text{C}}$ W | TOLERANCE ± % | RESISTANCE VALUE RANGE Ω | WEIGHT (typical) g/1000 pieces |
|--------------|------|---|------------------|--------------------------------|--------------------------------------|
| WSHM2818 | 2818 | 7 ⁽²⁾ | 1.0 | 0.001 to 0.1 | 167.8 |

Note

⁽²⁾ The WSHM2818 is rated at 7 W with maximum surface temperature of 180 °C.

TECHNICAL SPECIFICATIONS

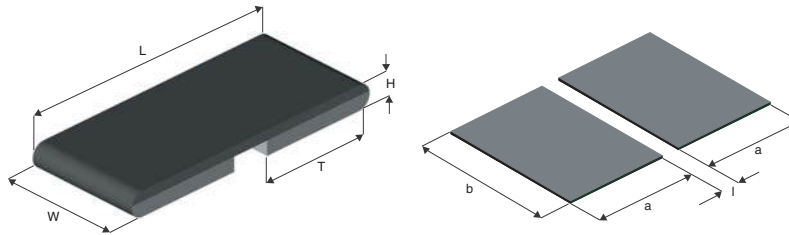
| PARAMETER | UNIT | RESISTOR CHARACTERISTICS |
|-----------------------------|--------|--|
| Temperature coefficient | ppm/°C | ± 200 for 1 mΩ to 5.99 mΩ ± 75 for 6 mΩ to 100 mΩ |
| Inductance | nH | < 5 |
| Operating temperature range | °C | -65 to +170 |
| Maximum continuous current | A | $(P/R)^{1/2}$ |

GLOBAL PART NUMBER INFORMATION

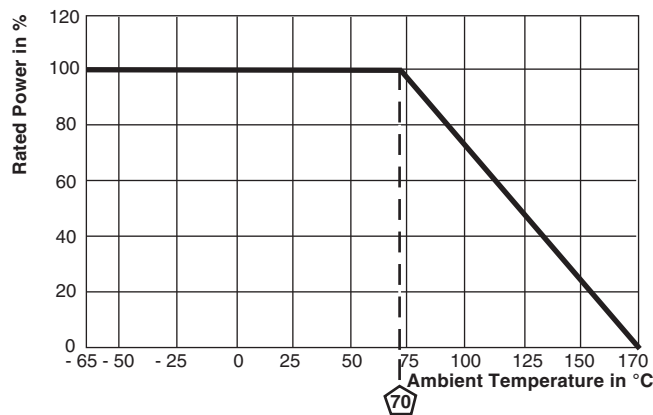
Global Part Numbering: WSHM2818R1000FEA

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| W | S | H | M | 2 | 8 | 1 | 8 | R | 1 | 0 | 0 | 0 | F | E | A | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|

| GLOBAL MODEL | RESISTANCE VALUE | TOLERANCE CODE | PACKAGING CODE | SPECIAL |
|--------------|---|----------------------------|---|---|
| WSHM2818 | L = mΩ* R = Decimal 4L000 = 0.004 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 | (Dash number) (up to 2 digits) From 1 to 99 as applicable |

DIMENSIONS in inches (millimeters)


| MODEL | RESISTANCE RANGE Ω | DIMENSIONS | | | | SOLDER PAD DIMENSIONS | | |
|----------|------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|-----------------------|----------------|-----------------|
| | | L | W | H | T | a | b | l |
| WSHM2818 | 0.001 to 0.1 | 0.280 ± 0.010 (7.1 ± 0.25) | 0.180 ± 0.010 (4.6 ± 0.25) | 0.059 ± 0.010 (1.50 ± 0.25) | 0.125 ± 0.010 (3.18 ± 0.25) | 0.138 (3.5) | 0.200 (5.1) | 0.024 (0.61) |

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 | 4 x rated power for 5 s | ± 1.0 % ΔR |
| Low temperature operation | -65 °C for 45 min | ± 0.5 % ΔR |
| High temperature exposure | 1000 h at +170 °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 | 1000 h at 70 °C, 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 | ± 0.5 % ΔR |

| PACKAGING | | | | |
|-----------|------------------------|------------|-------------|------|
| MODEL | REEL | | | |
| | TAPE WIDTH | DIAMETER | PIECES/REEL | CODE |
| WSHM2818 | 16 mm/embossed plastic | 330 mm/13" | 3500 | EA |

Note

- Embossed Carrier Tape per EIA-481.



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- Подбор аналогов;
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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
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