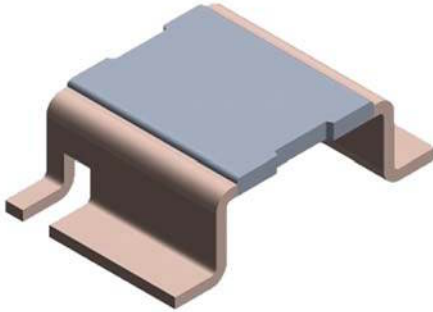


Power Metal Strip® Resistors, Very High Power (to 7 W), Low Value (down to 0.0003 Ω), Surface Mount



FEATURES

- High power to foot print size ratio
- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifiers, and shunts
- Proprietary processing technique produces extremely low resistance values, down to 0.0003 Ω
- Specially selected and stabilized materials allow for high power rating (to 7 W)
- All welded construction
- Solid metal nickel-chrom or manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Very low inductance 0.5 nH to 5 nH
- Low thermal EMF (< 3 μV/°C)
- AEC-Q200 qualified available ⁽¹⁾
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

 AUTOMOTIVE
GRADE
Available

RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

Note

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

STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | SIZE | POWER RATING $P_{70^{\circ}\text{C}}$ W | TOLERANCE ± % | RESISTANCE VALUE RANGE Ω | RESISTANCE VALUES CURRENTLY AVAILABLE ⁽²⁾ Ω | WEIGHT (typical) g/1000 pieces |
|--------------|------|---|------------------|--------------------------------|--|--------------------------------------|
| WSLP4026 | 4026 | 5.0 | 1.0, 5.0 | 2m to 4m | 2m, 3m, 4m | 420 |
| WSLP4026 | 4026 | 7.0 | 1.0, 5.0 | 0.3m to 1m | 0.3m, 0.5m, 0.7m, 1m | 420 |

Notes

- Power rating depends on the max. temperature at the solder point, component placement density and the substrate material.
- Part marking: Model, value, tolerance, date code.
- ⁽²⁾ Other values may be available, contact factory.

TECHNICAL SPECIFICATIONS

| PARAMETER | UNIT | RESISTOR CHARACTERISTICS |
|-----------------------------|--------|---|
| Temperature coefficient | ppm/°C | ± 75 for 0.5 mΩ to 4 mΩ, ± 110 for 0.3 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

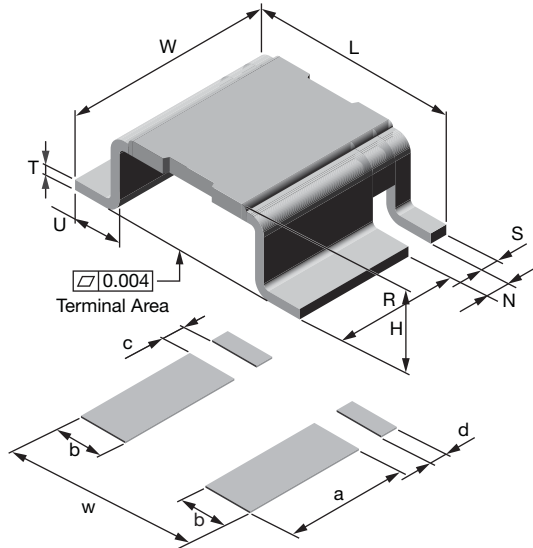
Global Part Numbering: WSLP4026L5000FEA (WSLP4026, 0.0005 Ω, ± 1 %)

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| W | S | L | P | 4 | 0 | 2 | 6 | L | 5 | 0 | 0 | 0 | F | E | A | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|

| | | | | |
|---------------------------------|--|--|---|---|
| GLOBAL MODEL WSLP4026 | RESISTANCE VALUE L = mΩ L5000 = 0.0005 Ω L7000 = 0.0007 Ω 1L000 = 0.0010 Ω 2L000 = 0.0020 Ω | TOLERANCE CODE F = ± 1.0 % J = ± 5.0 % | PACKAGING CODE EA = Lead (Pb)-free, tape/reel EK = Lead (Pb)-free, bulk | SPECIAL (Dash number) (Up to 2 digits) From 1 to 99 as applicable |
|---------------------------------|--|--|---|---|

DIMENSIONS

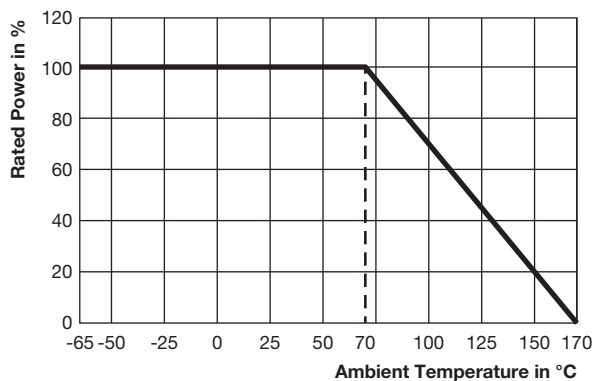
| MODEL | DIMENSIONS in inches (millimeters) | | | | | | | |
|----------|------------------------------------|--|------------------------|----------------|------------------------------|-------------------------------|------------------------------|--------------------------------|
| | L | W | H | R (REF.) | S | T | U | N |
| WSLP4026 | 0.400 ± 0.008 (10.1 ± 0.2) | 0.260 + 0.012/- 0.008 (6.6 + 0.3/- 0.2) | Please see table below | 0.198 (5.0) | 0.028 ± 0.004 (0.7 ± 0.1) | 0.016 ± 0.002 (0.4 ± 0.05) | 0.078 ± 0.004 (2.0 ± 0.1) | 0.039 ± 0.006 (0.99 ± 0.15) |



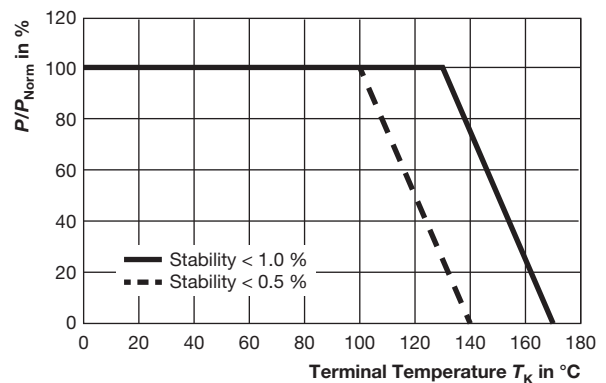
| MODEL | SOLDER PAD DIMENSIONS in inches (millimeters) | | | | |
|----------|---|-----------------|-----------------|-----------------|-----------------|
| | a | b | c | d | w |
| WSLP4026 | 0.220 (5.6) | 0.096 (2.44) | 0.035 (0.89) | 0.035 (0.89) | 0.420 (10.6) |

| MODEL | RESISTANCE VALUE (mΩ) | ELEMENT MATERIAL | HEIGHT H |
|----------|-----------------------|------------------|--------------------------------|
| WSLP4026 | 0.3 | Mn-Cu | 0.141 ± 0.008 (3.58 ± 0.2) |
| WSLP4026 | 0.5 | Mn-Cu | 0.116 ± 0.008 (2.95 ± 0.2) |
| WSLP4026 | 0.7 | Mn-Cu | 0.111 ± 0.008 (2.82 ± 0.2) |
| WSLP4026 | 1.0 | Mn-Cu | 0.1055 ± 0.008 (2.68 ± 0.2) |
| WSLP4026 | 2.0 | Ni-Cr | 0.114 ± 0.008 (2.9 ± 0.2) |
| WSLP4026 | 3.0 | Ni-Cr | 0.108 ± 0.008 (2.74 ± 0.2) |
| WSLP4026 | 4.0 | Ni-Cr | 0.1046 ± 0.008 (2.66 ± 0.2) |

DERATING - AMBIENT TEMPERATURE



DERATING - TERMINAL TEMPERATURE



Example: WSLP4026 0.0005 Ω, 0.001 Ω



| 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 | 5x 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 + 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 |
| WSLP4026 | 16 mm/embossed plastic | 330 mm/13" | 1500 | EA |

Note

- Embossed carrier tape per EIA-481.



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