# Power Metal Strip® Meter Shunt Resistor Very Low Value (down to 0.0003 Ω)



## FEATURES

- High power to resistor size ratio
- 5-terminal connection design
- Use for single or multi-phase energy meters
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Very low inductance (< 5 nH)
- Low thermal EMF (< 3 µV/°C)
- Compliant to RoHS Directive 2002/95/EC

Pb-free

RoHS COMPLIANT

GREEN (5-2008)**

**Note**

** Please see document “Vishay Material Category Policy”: www.vishay.com/doc?99902

## STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | SIZE | POWER RATING $P_{70\,°C}$ W | TOLERANCE % | RESISTANCE VALUE RANGE Ω | RESISTANCE VALUES CURRENTLY AVAILABLE (1) Ω | WEIGHT (typical) g/1000 pieces |
|---|---|---|---|---|---|---|
| WSMS2906 | 2906 | 3.0 | 5.0 | 300µ to 660µ | 300µ, 400µ, 500µ | 4.7 |

**Note**

(1) Other values may be available, contact factory

## TECHNICAL SPECIFICATIONS

| PARAMETER | UNIT | RESISTOR CHARACTERISTICS |
|---|---|---|
| Temperature Coefficient | ppm/°C | ± 100 for 300 µΩ and 400 µΩ, ± 75 for 500 µΩ |
| Operating Temperature Range | °C | - 65 to + 170 |
| Maximum Current Rating | A | $(P/R)^{1/2}$ |

## GLOBAL PART NUMBER INFORMATION

**GLOBAL PART NUMBERING EXAMPLE: WSMS2906L4000JK (WSMS2906, 0.0004 Ω, ± 5 %)**

| W | S | M | S | 2 | 9 | 0 | 6 | L | 4 | 0 | 0 | 0 | J | K | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

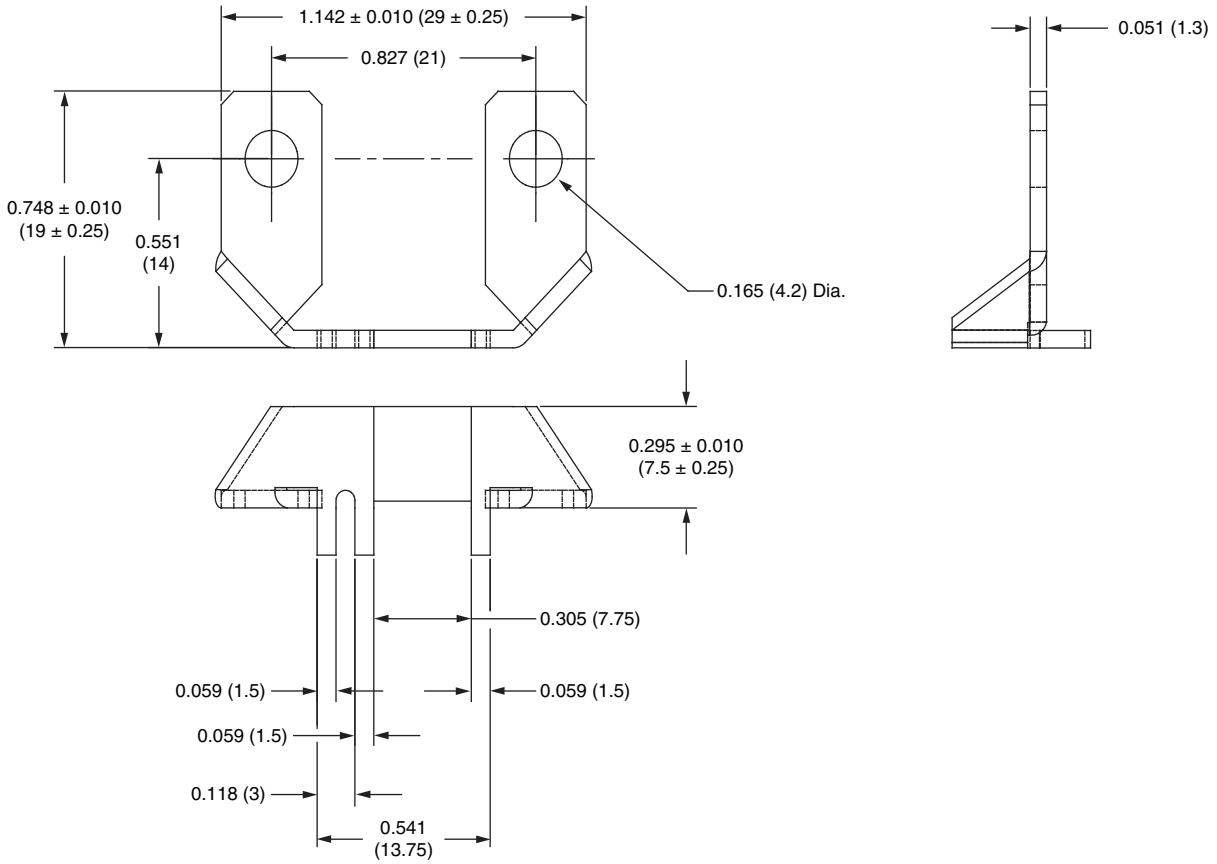
| GLOBAL MODEL | RESISTANCE VALUE | TOLERANCE CODE | PACKAGING CODE | SPECIAL |
|---|---|---|---|---|
| **WSMS2906** | **L** = mΩ<br>**L3000** = 0.00030 Ω<br>**L4000** = 0.00040 Ω<br>**L5000** = 0.00050 Ω | **J** = ± 5.0 % | **K** = Bulk pack | (Dash number)<br>(Up to 2 digits)<br>From **1 to 99** as applicable |



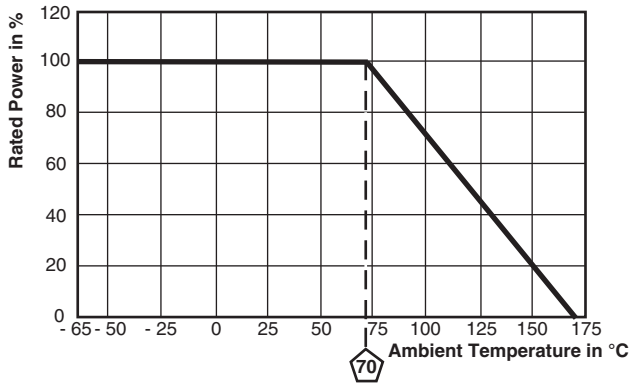
For technical questions, contact: ww2bresistors@vishay.com

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## DIMENSIONS in inches (millimeters)




## DERATING




| TOLERANCES ON DECIMALS |
|---|
| XXX ± 0.005 |

| RESISTANCE VALUE (μΩ) | ELEMENT MATERIAL |
|---|---|
| 300, 400, 500 | Mn-Cu |

| PERFORMANCE | | |
|---|---|---|
| **TEST** | **CONDITIONS OF TEST** | **TEST LIMITS** |
| Thermal Shock | - 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme | ± 0.5 % Δ*R* |
| Short Time Overload | 5 x rated power for 5 s | ± 0.5 % Δ*R* |
| Low Temperature Operation | - 65 °C for 45 min | ± 0.5 % Δ*R* |
| High Temperature Exposure | 1000 h at + 170 °C | ± 1.0 % Δ*R* |
| Bias Humidity | + 85 °C, 85 % RH, 10 % bias, 1000 h | ± 0.5 % Δ*R* |
| Mechanical Shock | 100 *g*'s for 6 ms, 5 pulses | ± 0.5 % Δ*R* |
| Vibration | Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h | ± 0.5 % Δ*R* |
| Load Life | 1000 h at + 70 °C, 1.5 h "ON", 0.5 h "OFF" | ± 1.0 % Δ*R* |
| Moisture Resistance | MIL-STD-202, method 106, 0 % power, 7b not required | ± 0.5 % Δ*R* |



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# Material Category Policy

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