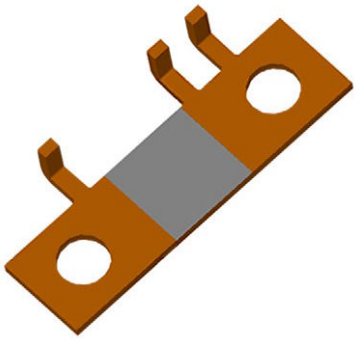
# Power Metal Strip® Meter Shunt Resistor, Very Low Value (down to 0.0001 Ω)



## 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)
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE

Pb-free

RoHS COMPLIANT

HALOGEN FREE

GREEN (5-2008)

## 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 |
|---|---|---|---|---|---|---|
| WSMS2908 | 2908 | 3.0 | 5.0 | 50µ to 1000µ | 100µ, 250µ, 300µ, 430µ, 500µ | 2100 |

**Note**

(1) Other values may be available, contact factory

## TECHNICAL SPECIFICATIONS

| PARAMETER | UNIT | RESISTOR CHARACTERISTICS |
|---|---|---|
| Temperature coefficient | ppm/°C | ± 1100 for 100 µΩ, ± 300 for 250 µΩ, ± 225 for 300 µΩ, ± 175 for 430 µΩ and 500 µΩ |
| Operating temperature range | °C | -65 to +170 |
| Maximum current rating | A | $(P/R)^{1/2}$ |

## GLOBAL PART NUMBER INFORMATION

**GLOBAL PART NUMBERING: WSMS2908L1000JE (WSMS2908, 0.0001 Ω, ± 5 %, tape / reel)**

| W | S | M | S | 2 | 9 | 0 | 8 | L | 1 | 0 | 0 | 0 | J | E | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| GLOBAL MODEL | RESISTANCE VALUE | TOLERANCE CODE | PACKAGING CODE | SPECIAL |
|---|---|---|---|---|
| **WSMS2908** | **L** = mΩ<br>**L1000** = 0.00010 Ω<br>**L2500** = 0.00025 Ω<br>**L3000** = 0.00030 Ω<br>**L4300** = 0.00043 Ω<br>**L5000** = 0.00050 Ω | **J** = ± 5.0 % | **K** = bulk pack<br>**E** = tape and reel | (dash number)<br>(up to 2 digits)<br>from **1 to 99** as applicable |



For technical questions, contact: ww2cresistors@vishay.com

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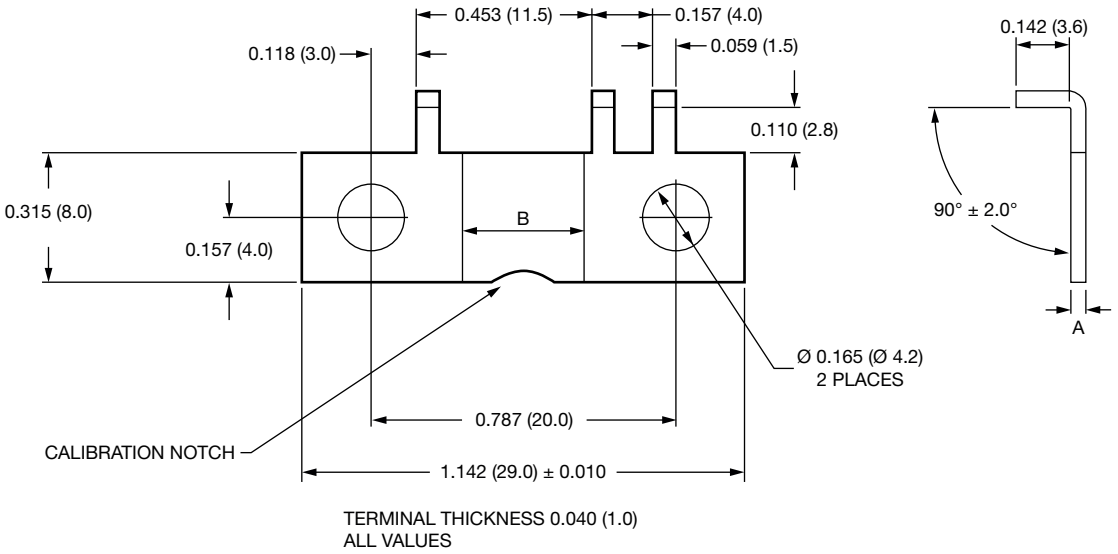
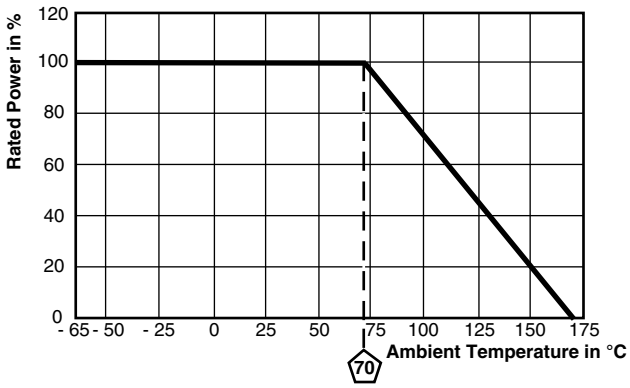
## DIMENSIONS in inches (millimeters)




TERMINAL THICKNESS 0.040 (1.0)
ALL VALUES

## DERATING




TOLERANCES ON DECIMALS
.XXX ± 0.005 [.x ± 0.1]

UNLESS OTHERWISE LISTED

| RESISTANCE VALUE (μΩ) | A DIMENSION (inches) | B DIMENSION (inches) | ELEMENT MATERIAL |
|---|---|---|---|
| 100 | 0.040 | 0.080 | Mn-Cu |
| 250 | 0.059 | 0.276 | Mn-Cu |
| 300 | 0.051 | 0.276 | Mn-Cu |
| 430 | 0.038 | 0.315 | Mn-Cu |
| 500 | 0.033 | 0.315 | 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 | 5x rated power for 5 s | ± 0.5 % Δ*R* |
| Low temperature storage | -65 °C for 24 h | ± 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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