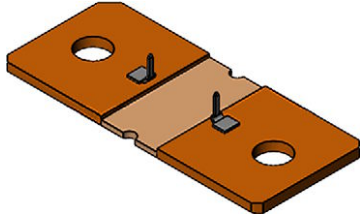


Power Metal Strip® Battery Shunt Resistor With Two Sense Pins Very Low Value (25 $\mu\Omega$, 50 $\mu\Omega$, 100 $\mu\Omega$, and 125 $\mu\Omega$)



FEATURES

- High power to resistor size ratio
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Solid metal manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Very low inductance (< 5 nH)
- Low thermal EMF (< 3 $\mu\text{V}/^\circ\text{C}$)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

LINKS TO ADDITIONAL RESOURCES



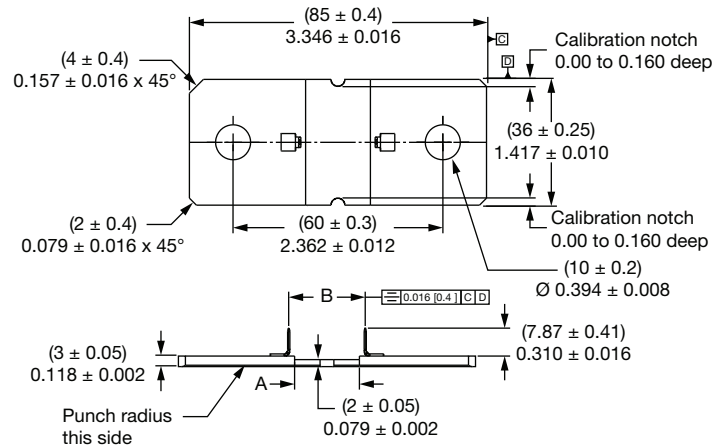
| STANDARD ELECTRICAL SPECIFICATIONS | | | | | | |
|------------------------------------|------|---|----------------------|------------------------------------|--|--|
| GLOBAL MODEL | SIZE | POWER RATING $P_{70^\circ\text{C}}$ W | TOLERANCE \pm % | RESISTANCE VALUE RANGE Ω | RESISTANCE VALUES CURRENTLY AVAILABLE ⁽¹⁾ Ω | WEIGHT (typical) g |
| WSBS8536...20 | 8536 | 50 | 5, 10 | 25 μ to 125 μ | 25 μ , 50 μ , 100 μ , 125 μ | 25 μ = 77.5, 50 μ = 75.5, 100 μ / 125 μ = 71.5 |

Note

⁽¹⁾ Other values may be available, contact factory

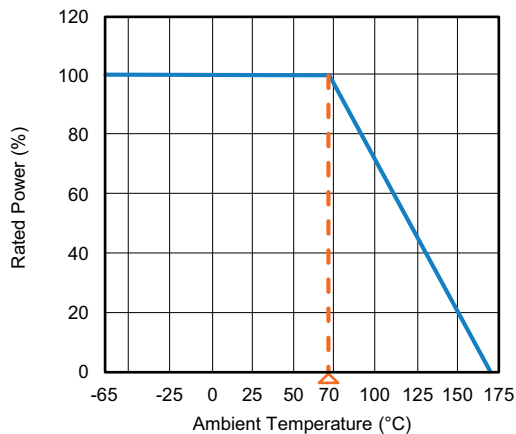
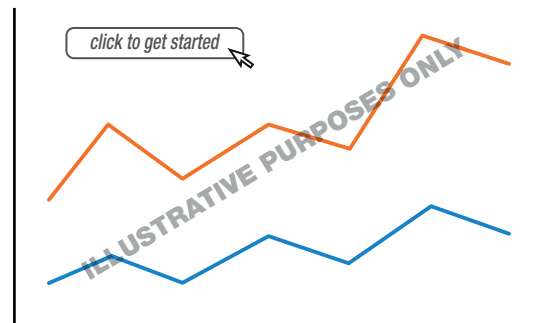
| TECHNICAL SPECIFICATIONS | | |
|--|--------|---|
| PARAMETER | UNIT | RESISTOR CHARACTERISTICS |
| Temperature coefficient | ppm/°C | \pm 200 for 25 $\mu\Omega$ |
| | | \pm 175 for 50 $\mu\Omega$ |
| | | \pm 165 for 100 $\mu\Omega$ / 125 $\mu\Omega$ |
| Temperature coefficient (element material) | ppm/°C | \pm 20 |
| Operating temperature range | °C | -65 to +170 |
| Maximum current rating | A | $(P/R)^{1/2}$ |

| GLOBAL PART NUMBER INFORMATION | | | | | | | | | | | | | | | | |
|--|---|---|---|--|---|---|---|---------------------------------|---|--------------------------------|---|---|------------------------------|---|---|---|
| Global Part Numbering: WSBS8536L1000JT20 (WSBS8536...20, 0.000100 Ω , \pm 5 %, tray pack) | | | | | | | | | | | | | | | | |
| W | S | B | S | 8 | 5 | 3 | 6 | L | 1 | 0 | 0 | 0 | J | T | 2 | 0 |
| GLOBAL MODEL | | | | RESISTANCE VALUE | | | | TOLERANCE CODE | | PACKAGING CODE | | | SPECIAL | | | |
| WSBS8536 | | | | L = m Ω L0500 = 0.000050 Ω L1000 = 0.000100 Ω L1250 = 0.000125 Ω L2500 = 0.000250 Ω | | | | J = \pm 5 % K = \pm 10 % | | T = tray pack K = bulk pack | | | 20 = two sense pins attached | | | |

DIMENSIONS in inches (millimeters)


| RESISTANCE VALUE ($\mu\Omega$) | ELEMENT MATERIAL | A REFERENCE | B $\pm 0.005 (\pm 0.13)$ |
|----------------------------------|------------------|----------------|--------------------------|
| 25 | Mn-Cu | 0.145 (3.683) | 0.135 (3.429) |
| 50 | Mn-Cu | 0.360 (9.144) | 0.492 (12.496) |
| 100 | Mn-Cu | 0.730 (18.542) | 0.862 (21.894) |
| 125 | Mn-Cu | 0.900 (22.860) | 1.032 (26.212) |

TOLERANCES ON DECIMALS
 .xxx ± 0.005 (.x ± 0.1)
 UNLESS OTHERWISE LISTED

DERATING

PULSE CAPABILITY


www.vishay.com/resistors/large-shunt-power-metal-strip-calculator/

| PERFORMANCE | | |
|---------------------------|--|----------------------|
| TEST | CONDITIONS OF TEST | TEST LIMITS |
| Thermal shock | -55 °C to +150 °C, 1000 cycles, 15 min at each extreme | $\pm 0.5\% \Delta R$ |
| Short time overload | 5 x rated power for 5 s | $\pm 0.5\% \Delta R$ |
| Low temperature storage | -65 °C for 24 h | $\pm 0.5\% \Delta R$ |
| High temperature exposure | 1000 h at +170 °C | $\pm 1.0\% \Delta R$ |
| Bias humidity | +85 °C, 85 % RH, 10 % bias, 1000 h | $\pm 0.5\% \Delta R$ |
| Mechanical shock | 100 g's for 6 ms, 5 pulses | $\pm 0.5\% \Delta R$ |
| Vibration | Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h | $\pm 0.5\% \Delta R$ |
| Load life | 1000 h at +70 °C, 1.5 h "ON", 0.5 h "OFF" | $\pm 1.0\% \Delta R$ |
| Moisture resistance | MIL-STD-202, method 106, 0 % power, 7b not required | $\pm 0.5\% \Delta R$ |



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