Power Metal Strip® Battery Shunt Resistor With M3 Tapped Holes and Sn Plated Terminals, Very Low Value (50 μΩ, 100 μΩ, 125 μΩ, and 250 μΩ)

FEATURES
- High power to resistor size ratio
- Proprietary processing technique produces extremely low resistance values
- Tapped holes aid in PCB mounting and / or a location to attach voltage sense pins
- Sn plating assists with PCB mounting and corrosion protection
- 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

DESIGN SUPPORT TOOLS AVAILABLE

STANDARD ELECTRICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>GLOBAL MODEL</th>
<th>SIZE</th>
<th>POWER RATING $P_{70^\circ C}$ W</th>
<th>TOLERANCE ± %</th>
<th>RESISTANCE VALUE RANGE Ω</th>
<th>RESISTANCE VALUES CURRENTLY AVAILABLE (1) Ω</th>
<th>WEIGHT (typical) g</th>
</tr>
</thead>
<tbody>
<tr>
<td>WSBS8518...P3</td>
<td>8518</td>
<td>36</td>
<td>5, 10</td>
<td>50μ to 250μ</td>
<td>50μ, 100μ, 125μ, 250μ</td>
<td>50μ = 37.9, 100μ / 125μ = 36.5, 250μ = 33.7</td>
</tr>
</tbody>
</table>

Note
(1) Other values may be available, contact factory

TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>UNIT</th>
<th>RESISTOR CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature coefficient</td>
<td>ppm/°C</td>
<td>± 200 for 50 μΩ</td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 175 for 100 μΩ, 125 μΩ</td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 110 for 250 μΩ</td>
</tr>
<tr>
<td>Temperature coefficient (element material)</td>
<td>ppm/°C</td>
<td>± 20</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>°C</td>
<td>-65 to +170</td>
</tr>
<tr>
<td>Maximum current rating</td>
<td>A</td>
<td>(P/R)$^{1/2}$</td>
</tr>
</tbody>
</table>

GLOBAL PART NUMBER INFORMATION

GLOBAL PART NUMBERING: WSBS8518L1000JTP3 (WSBS8518-P3, 0.000100 Ω, ± 5 %, tray pack)

GOLDEN...P3
Vishay Dale
DIMENSIONS in inches (millimeters)

Note
- Plating on top / bottom is Sn 2.5 μm to 8.0 μm over Ni 0.5 μm to 4.0 μm, edges are not plated

RESISTANCE VALUE (μΩ) ELEMENT MATERIAL A REFERENCE B ± 0.005 (± 0.13)
50 Mn-Cu 0.145 (3.68) 0.281 (7.14)
100 Mn-Cu 0.360 (9.14) 0.495 (12.57)
125 Mn-Cu 0.454 (11.5) 0.590 (15.0)
250 Mn-Cu 0.900 (22.86) 1.036 (26.3)

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

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 5 x rated power for 5 s ± 0.5 % ΔR
10 x rated power for 5 s ± 1.0 % ΔR
Low temperature storage -65 °C for 24 h ± 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
Moisture resistance MIL-STD-202, method 106, 0 % power, 7b not required ± 0.5 % ΔR
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