

Power Metal Strip® Battery Shunt Resistor, Sn Plated, Very Low Value (50 $\mu\Omega$, 100 $\mu\Omega$, 125 $\mu\Omega$, and 250 $\mu\Omega$)



FEATURES

- High power to resistor size ratio
- Sn plating assists with PCB mounting and corrosion protection
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Very low inductance (< 5 nH)
- Low thermal EMF (as low as < 1 $\mu\text{V}/^\circ\text{C}$)
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



DESIGN TOOLS (click logo to get started)



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
WSBS8518...14	8518	36	5, 10	50 μ to 1000 μ	50 μ , 100 μ , 125 μ , 250 μ	50 μ = 37.9, 100 μ / 125 μ = 36.5, 250 μ = 33.7

Note

(1) Other values may be available, contact factory

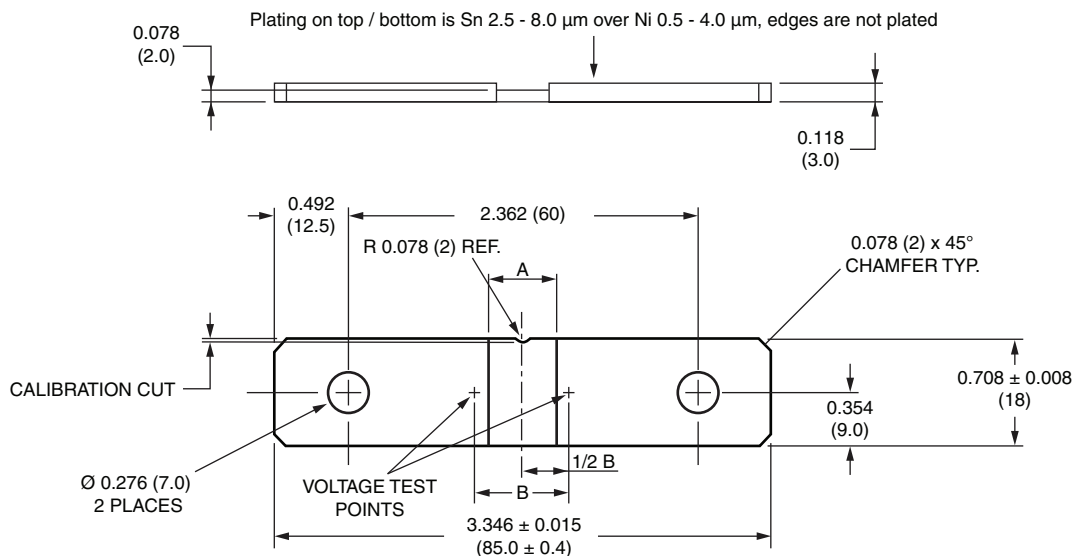
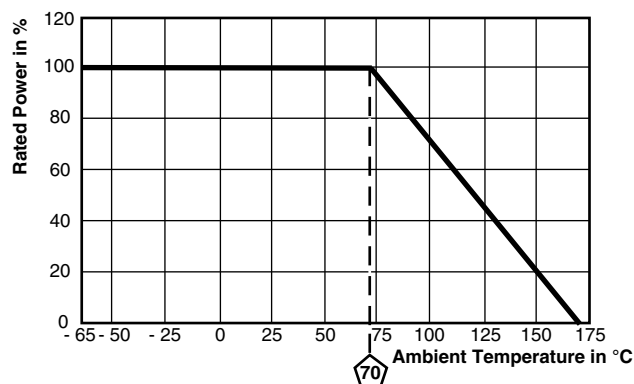
TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/ $^\circ\text{C}$	± 200 for 50 $\mu\Omega$
		± 175 for 100 $\mu\Omega$ / 125 $\mu\Omega$
		± 110 for 250 $\mu\Omega$
Temperature coefficient (element material)	ppm/ $^\circ\text{C}$	± 20
Operating temperature range	$^\circ\text{C}$	-65 to +170
Thermal EMF	$\mu\text{V}/^\circ\text{C}$	< 1 for 50 $\mu\Omega$ and < 3 for 100 $\mu\Omega$, 125 $\mu\Omega$, 250 $\mu\Omega$
Maximum current rating	A	$(P/R)^{1/2}$

GLOBAL PART NUMBER INFORMATION

GLOBAL PART NUMBERING: WSBS8518L1250JK14 (WSBS8518...14, 0.000125 Ω , $\pm 5 \%$, bulk pack)

W	S	B	S	8	5	1	8	L	1	2	5	0	J	K	1	4
GLOBAL MODEL				RESISTANCE VALUE				TOLERANCE CODE				PACKAGING CODE				SPECIAL
WSBS8518				L = m Ω L0500 = 0.000050 Ω L1000 = 0.000100 Ω L1250 = 0.000125 Ω L2500 = 0.000250 Ω				J = $\pm 5 \%$ K = $\pm 10 \%$				K = bulk pack T = tray pack				14 = Sn plated

DIMENSIONS in inches (millimeters)

DERATING

TOLERANCES ON DECIMALS
.xxx $\pm$ 0.005 [.x $\pm$ 0.1]

UNLESS OTHERWISE LISTED

RESISTANCE VALUE ($\mu\Omega$)	ELEMENT MATERIAL	A REFERENCE	B $\pm$ 0.005 [$\pm$ 0.13]
50	Mn-Cu	0.145 [3.68]	0.270 [8.71]
100	Mn-Cu	0.370 [9.40]	0.495 [12.57]
125	Mn-Cu	0.480 [12.19]	0.605 [15.37]
250	Mn-Cu	0.900 [22.86]	1.025 [26.04]

PERFORMANCE

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



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