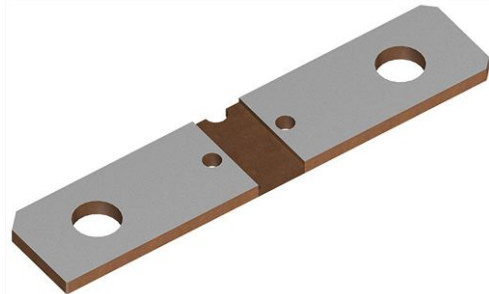




# Power Metal Strip® Battery Shunt Resistor With M4 Tapped Holes and Sn Plated Terminals, Very Low Value (50 μΩ, 100 μΩ, 125 μΩ, and 250 μΩ)



### 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](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### DESIGN SUPPORT TOOLS AVAILABLE



STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	SIZE	POWER RATING <i>P</i> <sub>70 °C</sub> W	TOLERANCE ± %	RESISTANCE VALUE RANGE Ω	RESISTANCE VALUES CURRENTLY AVAILABLE <sup>(1)</sup> Ω	WEIGHT (typical) g
WSBS8518...P4	8518	36	5, 10	50μ to 250μ	50μ, 100μ, 125μ, 250μ	50μ = 37.9, 100μ / 125μ = 36.5, 250μ = 33.7

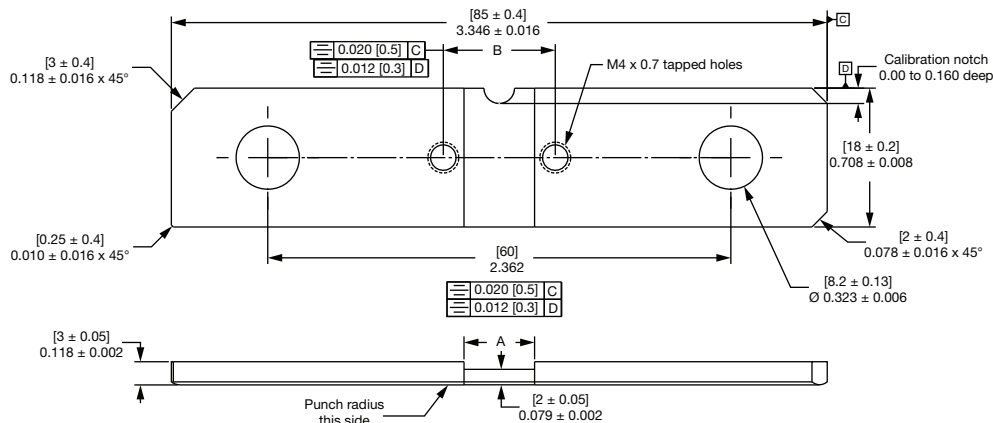
#### Note

(1) Other values may be available, contact factory

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	± 200 for 50 μΩ
		± 175 for 100 μΩ, 125 μΩ
		± 110 for 250 μΩ
Temperature coefficient (element material)	ppm/°C	± 20
Operating temperature range	°C	-65 to +170
Maximum current rating	A	( <i>P/R</i> ) <sup>1/2</sup>

GLOBAL PART NUMBER INFORMATION																
GLOBAL PART NUMBERING: WSBS8518L1000JTP4 (WSBS8518-P4, 0.000100 Ω, ± 5 %, tray pack)																
W	S	B	S	8	5	1	8	L	1	0	0	0	J	T	P	4
GLOBAL MODEL		RESISTANCE VALUE				TOLERANCE CODE		PACKAGING CODE			SPECIAL					
WSBS8518		L = mΩ L0500 = 0.000050 Ω L1000 = 0.000100 Ω L1250 = 0.000125 Ω L2500 = 0.000250 Ω				J = ± 5 % K = ± 10 %		K = bulk pack T = tray pack			P4 = M4 tapped holes with plated terminals					

**DIMENSIONS** in inches (millimeters)



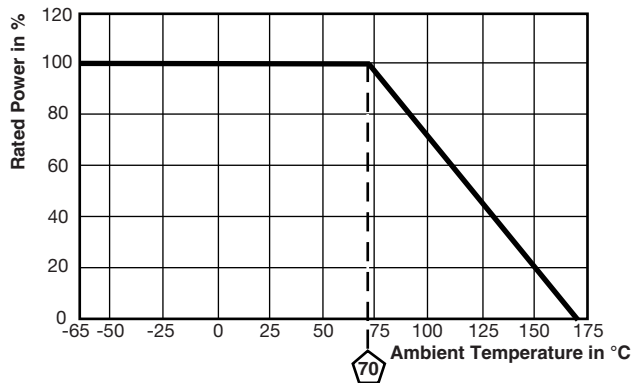
**Note**

- 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

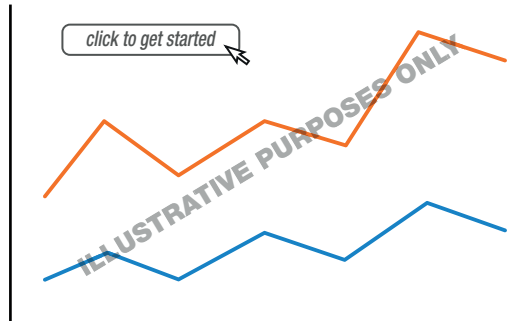
RESISTANCE VALUE (µΩ)	ELEMENT MATERIAL	A REFERENCE	B ± 0.005 (± 0.13)
50	Mn-Cu	0.145 (3.68)	0.357 (9.07)
100	Mn-Cu	0.360 (9.14)	0.571 (14.50)
125	Mn-Cu	0.454 (11.5)	0.666 (16.9)
250	Mn-Cu	0.900 (22.86)	1.112 (28.2)

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/](http://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	± 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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