

Vishay Dale

Power Metal Strip[®] Battery Shunt Resistor With M4 Tapped Holes and Sn Plated Terminals, Very Low Value (50 $\mu\Omega$, 100 $\mu\Omega$, 125 $\mu\Omega$, and 250 $\mu\Omega$)



DESIGN SUPPORT TOOLS AVAILABLE





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





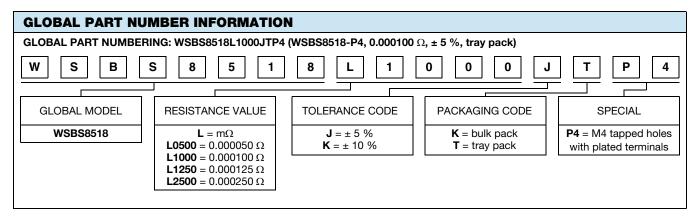


STANDARD ELECTRICAL SPECIFICATIONS									
GLOBAL MODEL	SIZE	POWER RATING P ₇₀ °C W	TOLERANCE ± %	$\begin{array}{c} \textbf{RESISTANCE VALUE} \\ \textbf{RANGE} \\ \Omega \end{array}$	RESISTANCE VALUES CURRENTLY AVAILABLE (1) Ω	WEIGHT (typical) g			
WSBS8518P4	8518	36	5, 10	50μ to 250μ	50μ, 100μ, 125μ, 250μ	50μ = 37.9, 100μ / 125μ = 36.5, 250μ = 33.7			

Note

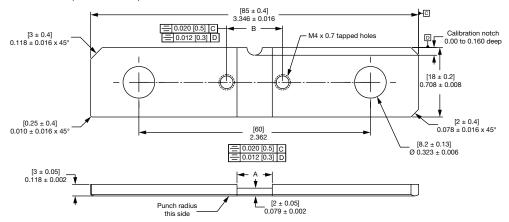
⁽¹⁾ Other values may be available, contact factory

TECHNICAL SPECIFICATIONS						
PARAMETER	UNIT	RESISTOR CHARACTERISTICS				
		\pm 200 for 50 μ Ω				
Temperature coefficient	ppm/°C	\pm 175 for 100 μ Ω , 125 μ Ω				
		\pm 110 for 250 μ Ω				
Temperature coefficient (element material)	ppm/°C	± 20				
Operating temperature range	°C	-65 to +170				
Maximum current rating	Α	(P/R) ^{1/2}				





DIMENSIONS in inches (millimeters)



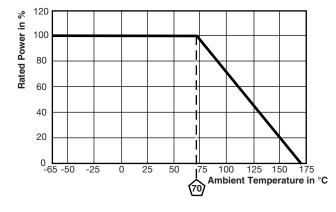
Note

• 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

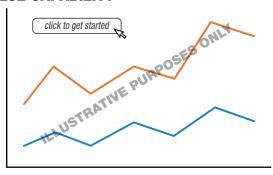
RESISTANCE VALUE ($\mu\Omega$)	ELEMENT MATERIAL	A REFERENCE	B ± 0.005 (± 0.13)
50	Mn-Cu	0.145 (3.68)	0.357 (9.07)
100	Mn-Cu	0.360 (9.14)	0.571 (14.50)
125	Mn-Cu	0.454 (11.5)	0.666 (16.9)
250	Mn-Cu	0.900 (22.86)	1.112 (28.2)

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/

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				
Short time overload	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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