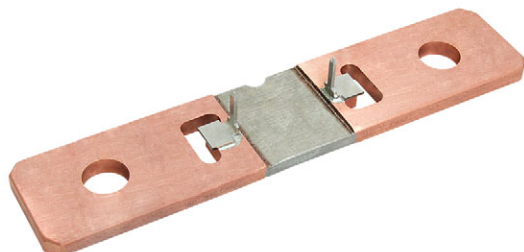




Power Metal Strip® Shunt Resistor With Sense Pins, Low TCR (Down to $< \pm 10 \text{ ppm}/^\circ\text{C}$), Very Low Value (100 $\mu\Omega$, 500 $\mu\Omega$, and 1000 $\mu\Omega$)



FEATURES

- High power to resistor size ratio
- Proprietary processing technique produces extremely low resistance values
- Welded terminal to element construction
- Solid metal nickel-chrome alloy resistive element with unique design for low TCR (down to $\pm 10 \text{ ppm}/^\circ\text{C}$)
- Very low inductance ($< 5 \text{ nH}$)
- Low thermal EMF (as low as $< 1.25 \mu\text{V}/^\circ\text{C}$)
- AEC-Q200 qualified
- PATENT(S): www.vishay.com/patents
- 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
WSBS8518...35	8518	36	5, 10	100 μ to 1000 μ	100 μ	36.5
WSBS8518...35	8518	25	5, 10	100 μ to 1000 μ	500 μ	33.9
WSBS8518...35	8518	20	5, 10	100 μ to 1000 μ	1000 μ	31.8

Note

⁽¹⁾ Other values may be available, contact factory

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/ $^\circ\text{C}$	± 65 for 100 $\mu\Omega$
		± 10 for 500 $\mu\Omega$
		± 25 for 1000 $\mu\Omega$
Operating temperature range	$^\circ\text{C}$	-65 to +170
Thermal EMF	$\mu\text{V}/^\circ\text{C}$	< 1.25
Inductance	nH	< 5
Maximum current rating	A	$(P/R)^{1/2}$

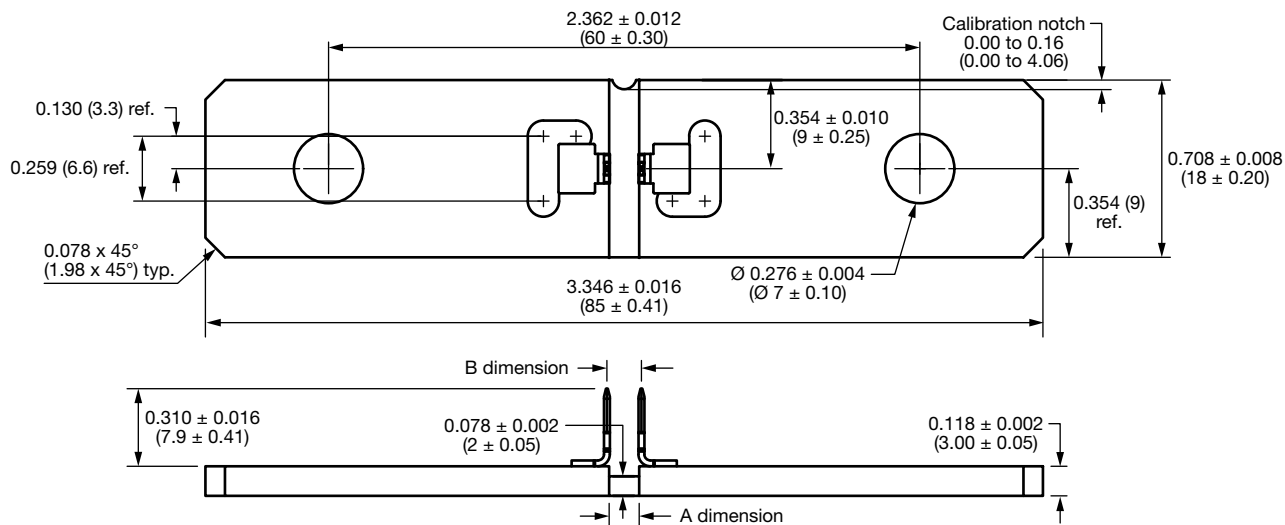
GLOBAL PART NUMBER INFORMATION																
Global Part Numbering: WSBS8518L5000JT35 (WSBS8518...35, 0.0005 Ω , $\pm 5 \%$, tray pack)																
W	S	B	S	8	5	1	8	L	5	0	0	0	J	T	3	5
GLOBAL MODEL			RESISTANCE VALUE			TOLERANCE CODE			PACKAGING CODE			SPECIAL				
WSBS8518			L = m Ω L1000 = 0.000100 Ω L5000 = 0.000500 Ω L10000 = 0.001000 Ω			J = $\pm 5 \%$ K = $\pm 10 \%$			K = bulk pack T = tray pack			35 = low TCR and sense pins attached				

PATENT(S): www.vishay.com/patents

This Vishay product is protected by one or more United States and international patents.



DIMENSIONS in inches (millimeters)



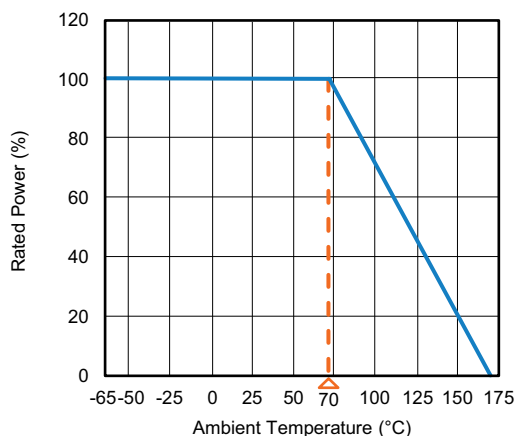
Note

- Minimum pull strength of sense pins is 200 N

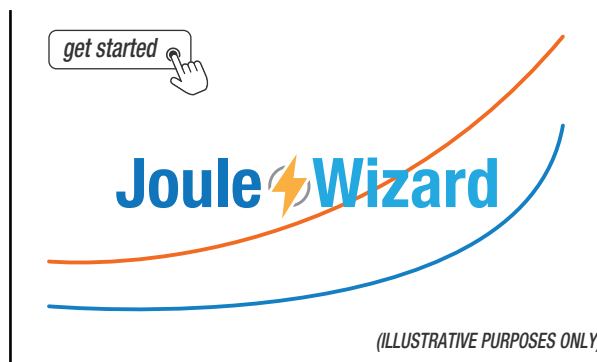
RESISTANCE VALUE ($\mu\Omega$)	ELEMENT MATERIAL	A REFERENCE	B ± 0.005 (± 0.13)
100	Ni-Cr	0.120 (3.05)	0.135 (3.43)
500	Ni-Cr	0.615 (15.62)	0.695 (17.65)
1000	Ni-Cr	0.900 (22.86)	0.980 (24.89)

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

DERATING



PULSE CAPABILITY



www.vishay.com/en/resistors/joulewizard/

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	$\pm 0.2\% \Delta R$
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	$\pm 0.2\% \Delta R$
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	$\pm 0.2\% \Delta R$
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	$\pm 0.2\% \Delta R$



LINKS TO RELATED DOCUMENTS	
TECHNICAL NOTES	
The Benefit of Using a Three Sense Pin Design on Battery / Meter Shunt Resistors	www.vishay.com/doc?30381
WHITE PAPERS	
Temperature Coefficient of Resistance for Current Sensing	www.vishay.com/doc?30405



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