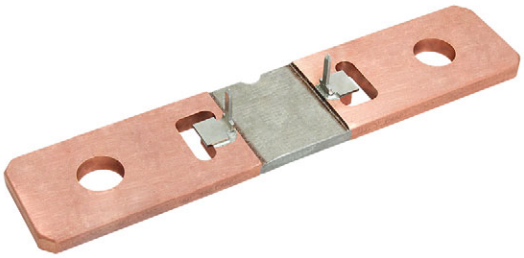
Power Metal Strip® Shunt Resistor With Sense Pins, Low TCR (Down to < ± 10 ppm/°C), Very Low Value (100 µΩ, 500 µΩ, and 1000 µΩ)



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 ± 10 ppm/°C)
- Very low inductance (< 5 nH)
- Low thermal EMF (as low as < 1.25 µV/°C)
- AEC-Q200 qualified
- PATENT(S): www.vishay.com/patents
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free
RoHS COMPLIANT
HALOGEN FREE GREEN (5-2008)

LINKS TO ADDITIONAL RESOURCES

3D Models Design Tools

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	POWER RATING $P_{70\,°C}$ W	TOLERANCE ± %	RESISTANCE VALUE RANGE Ω	RESISTANCE VALUES CURRENTLY AVAILABLE (1) Ω	WEIGHT (typical) g
WSBS8518...35	8518	36	5, 10	100µ to 1000µ	100µ	36.5
WSBS8518...35	8518	25	5, 10	100µ to 1000µ	500µ	33.9
WSBS8518...35	8518	20	5, 10	100µ to 1000µ	1000µ	31.8

Note

(1) Other values may be available, contact factory

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	± 65 for 100 µΩ
		± 10 for 500 µΩ
		± 25 for 1000 µΩ
Operating temperature range	°C	-65 to +170
Thermal EMF	µV/°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, ± 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** = mΩ **L1000** = 0.000100 Ω **L5000** = 0.000500 Ω **1L000** = 0.001000 Ω	**J** = ± 5 % **K** = ± 10 %	**K** = bulk pack **T** = tray pack	**35** = low TCR and sense pins attached

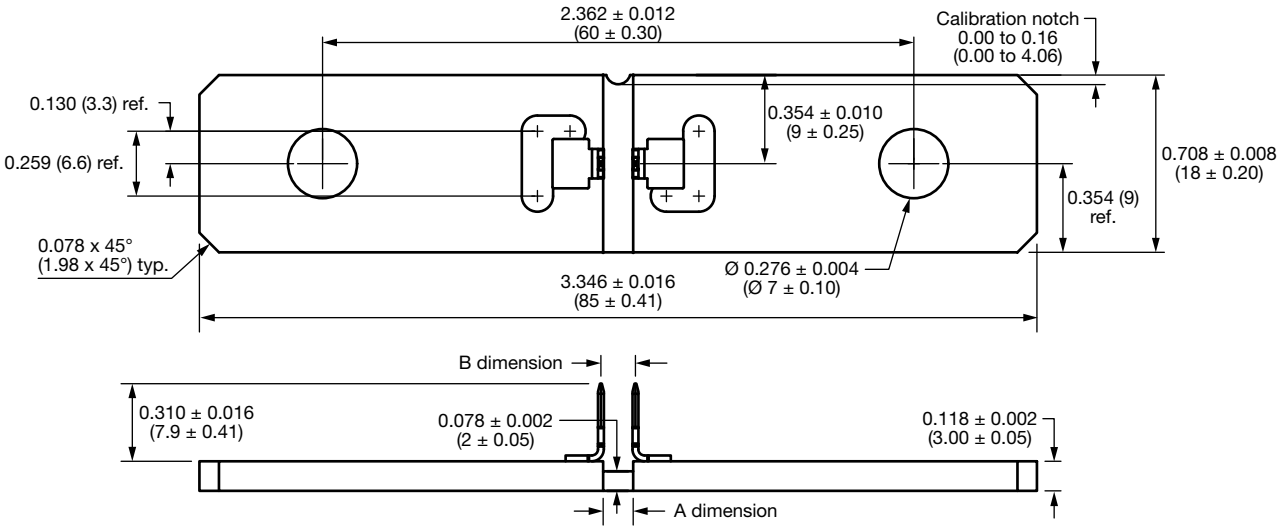
PATENT(S): www.vishay.com/patents
This Vishay product is protected by one or more United States and international patents.

For technical questions, contact: ww2cresistors@vishay.com

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DIMENSIONS in inches (millimeters)



Note

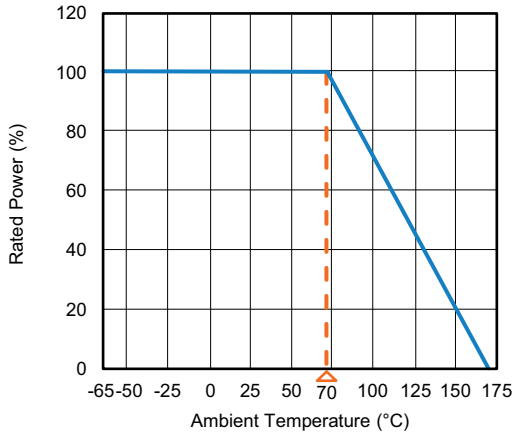
- Minimum pull strength of sense pins is 200 N

RESISTANCE VALUE (μΩ)	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)

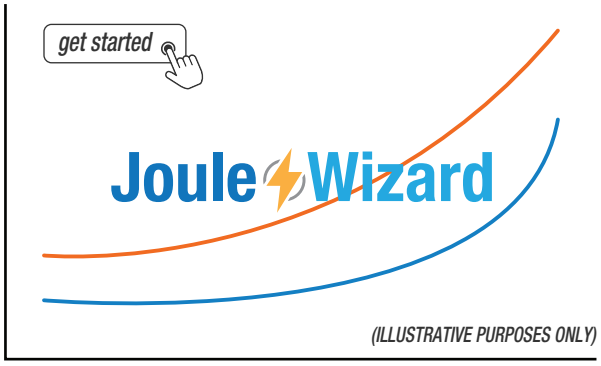
TOLERANCES ON DECIMALS
.xxx ± 0.005 (.x ± 0.1)

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	± 0.5 % Δ*R*
Short time overload	5 x rated power for 5 s	± 0.5 % Δ*R*
Low temperature storage	-65 °C for 24 h	± 0.2 % Δ*R*
High temperature exposure	1000 h at +170 °C	± 1.0 % Δ*R*
Bias humidity	+85 °C, 85 % RH, 10 % bias, 1000 h	± 0.5 % Δ*R*
Mechanical shock	100 *g*'s for 6 ms, 5 pulses	± 0.2 % Δ*R*
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	± 0.2 % Δ*R*
Load life	1000 h at +70 °C, 1.5 h "ON", 0.5 h "OFF"	± 1.0 % Δ*R*
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7b not required	± 0.2 % Δ*R*

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AVAILABLE CATALOG OPTIONS		
GLOBAL MODEL	**SPECIAL**	
WSBS8518	Cu terminals	www.vishay.com/doc?30134
WSBS8518...14	Sn plated	www.vishay.com/doc?30340
WSBS8518…20	Two sense pins	www.vishay.com/doc?30341
WSBS8518…34	Low TCR	www.vishay.com/doc?30354
WSBS8518…35	Sense pins, low TCR	www.vishay.com/doc?30355
WSBS8518…40	Three sense pins	www.vishay.com/doc?30350
WSBS8518…60	Two sense pins, Sn plated	www.vishay.com/doc?30390
WSBS8518…80	Three sense pins, Sn plated	www.vishay.com/doc?30391
WSBS8518…M3	M3 tapped holes	www.vishay.com/doc?30374
WSBS8518…M4	M4 tapped holes	www.vishay.com/doc?30375
WSBS8518…P3	M3 tapped holes, Sn plated	www.vishay.com/doc?30392
WSBS8518…P4	M4 tapped holes, Sn plated	www.vishay.com/doc?30393

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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