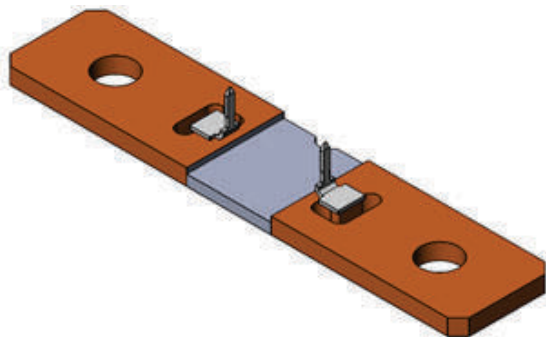


Power Metal Strip® Shunt Resistor With Sense Pins, Low TCR (Down to $< \pm 10 \text{ ppm}/^\circ\text{C}$), Very Low Value ($100 \mu\Omega$, $500 \mu\Omega$, and $1000 \mu\Omega$)



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 $< 1.25 \mu\text{V}/^\circ\text{C}$)
- 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)

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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	$\text{ppm}/^\circ\text{C}$	± 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	$(P/R)^{1/2}$

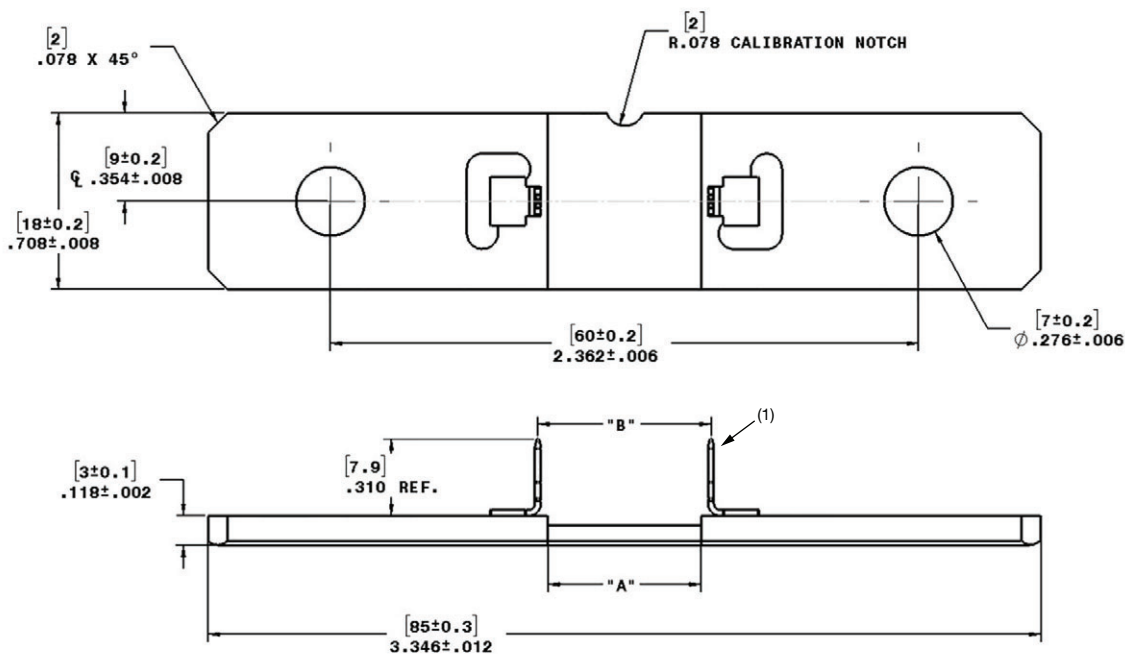
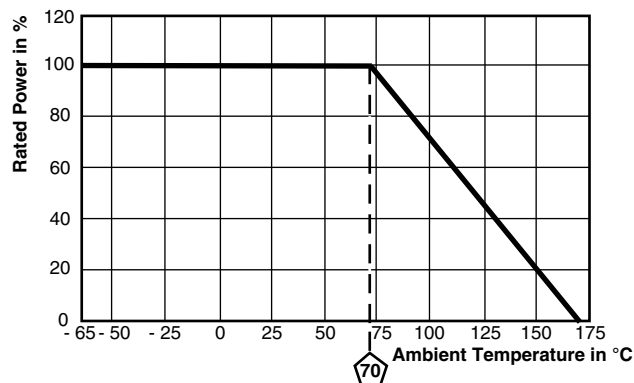
GLOBAL PART NUMBER INFORMATION

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 1L000 = 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)

DERATING

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

UNLESS OTHERWISE LISTED

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]

Note

(1) Minimum pull strength of 200 N

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	5x 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	$\pm 0.2\% \Delta R$



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