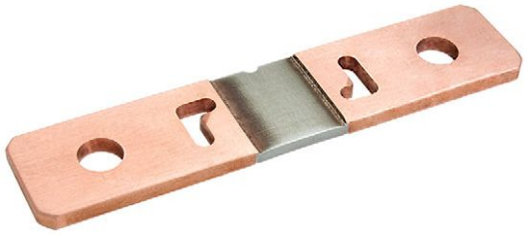
Power Metal Strip® Shunt Resistor, Low TCR (Down to < ± 10 ppm/°C), Very Low Value (100 µΩ, 500 µΩ, and 1000 µΩ)



FEATURES

- High power to resistor size ratio
- Proprietary processing technique produces extremely low resistance values
- All welded 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

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...34	8518	36	5, 10	100µ to 1000µ	100µ	36.0
WSBS8518...34	8518	25	5, 10	100µ to 1000µ	500µ	33.4
WSBS8518...34	8518	20	5, 10	100µ to 1000µ	1000µ	31.3

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

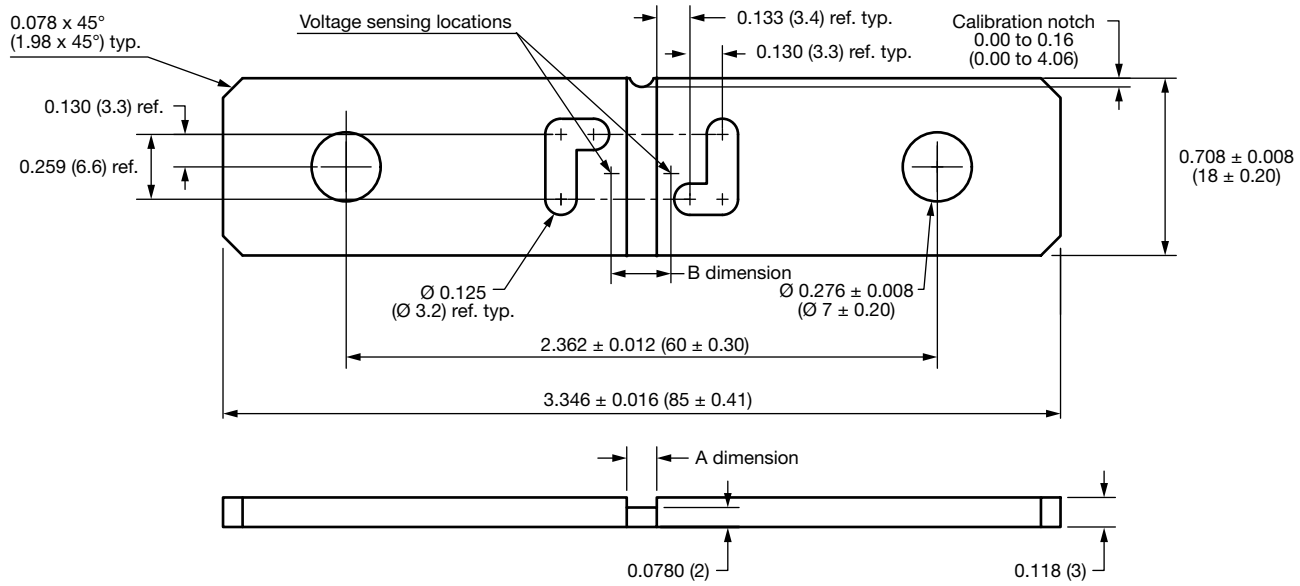
Global Part Numbering: WSBS8518L5000JT34 (WSBS8518…34, 0.0005 Ω, ± 5 %, tray pack)

W	S	B	S	8	5	1	8	L	5	0	0	0	J	T	3	4

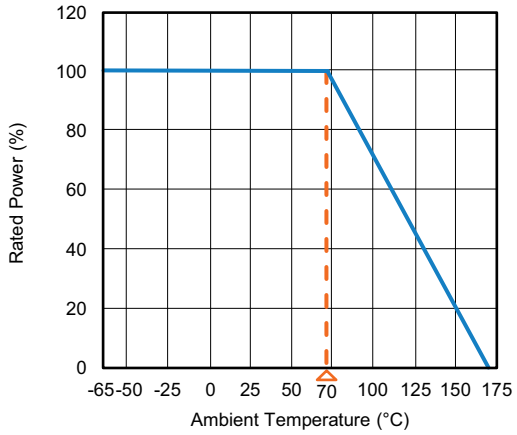
GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING CODE	SPECIAL
WSBS8518	**L** = mΩ **L1000** = 0.000100 Ω **L5000** = 0.000500 Ω **1L000** = 0.001000 Ω	**J** = ± 5 % **K** = ± 10 %	**K** = bulk pack **T** = tray pack	**34** = low TCR

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 ± 0.005 (.x ± 0.1)

UNLESS OTHERWISE LISTED

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)

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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