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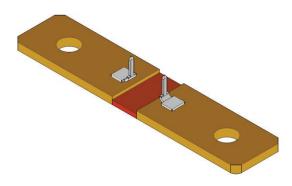
Vishay Dale

HALOGEN FREE

GREEN

(5-2008)

Power Metal Strip[®] Shunt Resistor With Two Sense Pins, Very Low Value (50 $\mu\Omega$, 100 $\mu\Omega$, 125 $\mu\Omega$, and 250 $\mu\Omega$)



STANDARD ELECTRICAL SPECIFICATIONS

DESIGN TOOLS (click logo to get started)



FEATURES

- High power to resistor size ratio
- · Sense pins allow for consistent contact location
- Proprietary processing technique produces extremely low resistance values
- Welded terminal to element construction
- Solid metal manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Very low inductance (< 5 nH)
- Low thermal EMF (as low as < 1 μV/°C)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

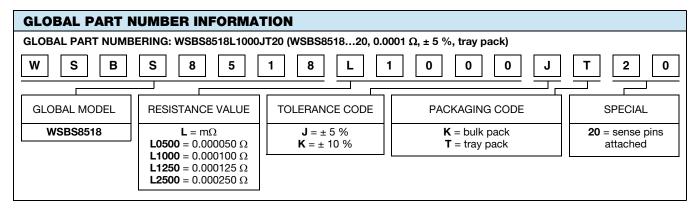


GLOBAL MODEL	SIZE	POWER RATING P _{70 °C} W	TOLERANCE ± %	RESISTANCE VALUE RANGE ⁽¹⁾ Ω	RESISTANCE VALUES CURRENTLY AVAILABLE $^{(2)}$ Ω	WEIGHT (typical) g
WSBS851820	8518	36	5, 10	50μ to 1000μ	50μ, 100μ, 125μ, 250μ	50μ = 38.4, 100μ / 125u = 36.9, 250μ = 34.2

Notes

⁽²⁾ Other values may be available, contact factory

TECHNICAL SPECIFICATIONS					
PARAMETER	UNIT	RESISTOR CHARACTERISTICS			
		\pm 200 for 50 $\mu\Omega$			
Temperature coefficient	ppm/°C	\pm 175 for 100 μ Ω / 125 μ Ω			
		\pm 110 for 250 $\mu\Omega$			
Temperature coefficient (element material)	ppm/°C	± 20			
Operating temperature range	°C	-65 to +170			
Thermal EMF	μV/°C	< 1 for 50 μ Ω and < 3 for 100 μ Ω , 125 μ Ω , 250 μ Ω			
Inductance	nH	< 5			
Maximum current rating	Α	(P/R) ^{1/2}			

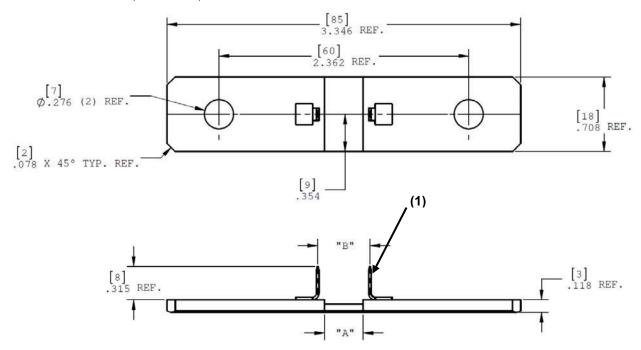


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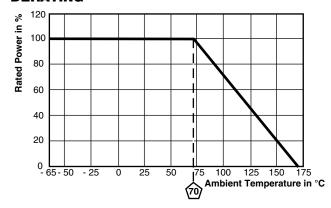
⁽¹⁾ Please reference WSBS8518...35 datasheet (www.vishay.com/doc?30355) for resistance values 500 $\mu\Omega$ to 1000 $\mu\Omega$



DIMENSIONS in inches (millimeters)



DERATING



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

UNLESS OTHERWISE LISTED

RESISTANCE VALUE (μΩ)	ELEMENT MATERIAL	A REFERENCE	B ± 0.005 [± 0.13]
50	Mn-Cu	0.145 [3.68]	0.135 [3.43]
100	Mn-Cu	0.370 [9.40]	0.495 [12.57]
125	Mn-Cu	0.480 [12.19]	0.585 [14.86]
250	Mn-Cu	0.900 [22.86]	1.028 [26.11]

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



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