Power Metal Strip® Battery Shunt Resistor W/Molded Enclosure Very Low Value (50 µΩ, 100 µΩ, 125 µΩ, and 500 µΩ)

FEATURES

- High power to resistor size ratio
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Solid metal manganese-copper alloy or nickel-chrome alloy resistive element with low TCR (< 20 ppm/°C)
- Molded enclosure allows for easy PCB connection
- Includes 4-pin male connector that mates with a Molex type MX150 #33472-4001 female connector
- 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

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

DESIGN TOOLS (click logo to get started)

3D Models Available

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
WSBM8518	8518	36	5, 10	50µ to 500µ	50µ, 100µ, 125µ	50µ = 61.3, 100µ / 125u = 59.8
WSBM8518	8518	25	5, 10	50µ to 500µ	500µ	56.8

Note

(1) Other values may be available, contact factory

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	± 200 for 50 µΩ
		± 175 for 100 µΩ / 125 µΩ
		± 10 for 500 µΩ
Temperature coefficient (element material)	ppm/°C	± 20
Operating temperature range	°C	-65 to +170
Thermal EMF	µV/°C	< 1 for 50 µΩ and < 3 for 100 µΩ, 125 µΩ, 500 µΩ
Inductance	nH	< 5
Maximum current rating	A	$(P/R)^{1/2}$

GLOBAL PART NUMBER INFORMATION

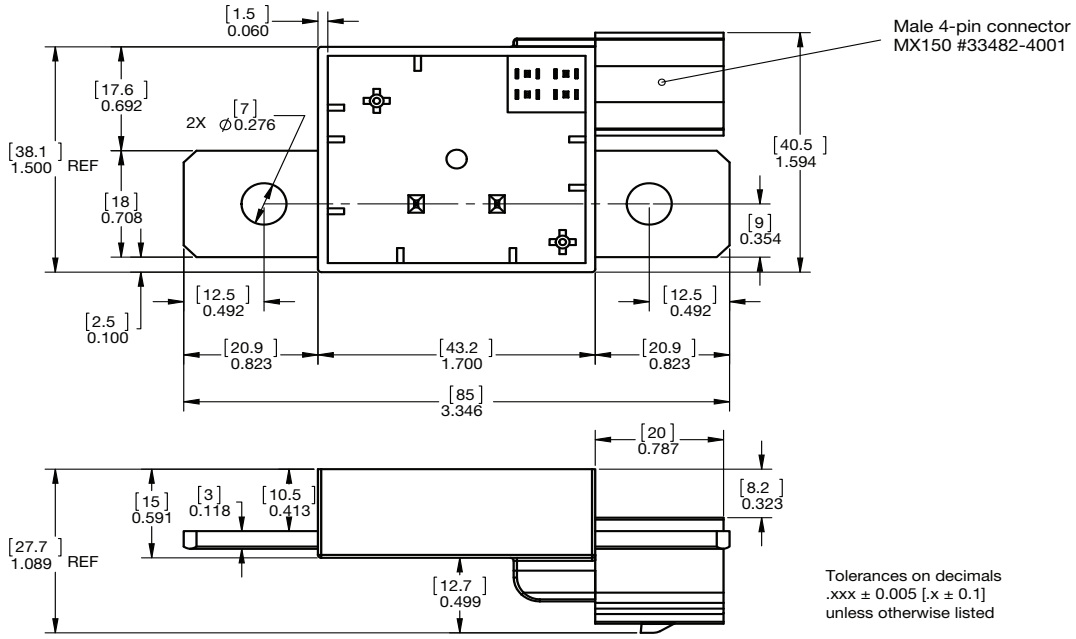
GLOBAL PART NUMBERING: WSBM8518L1000JT (WSBM8518, 0.0001 Ω, ± 5 %, tray pack)

W	S	B	M	8	5	1	8	L	1	0	0	0	J	T		

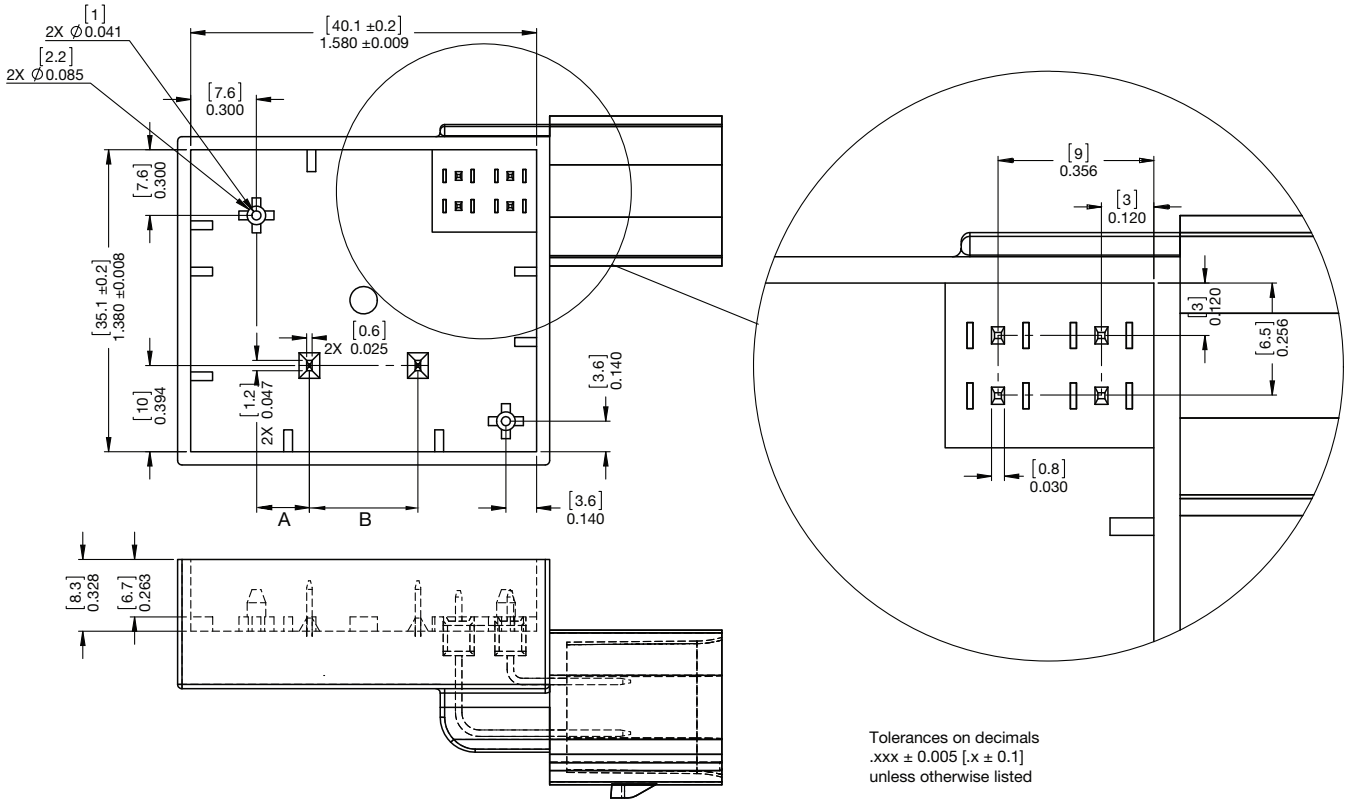
GLOBAL MODEL (8 digits)	RESISTANCE VALUE (5 digits)	TOLERANCE CODE (1 digit)	PACKAGING CODE (1 digit)	SPECIAL (up to 2 digits)
WSBM8518	**L** = mΩ **L0500** = 0.000050 Ω **L1000** = 0.000100 Ω **L1250** = 0.000125 Ω **L5000** = 0.000500 Ω	**J** = ± 5 % **K** = ± 10 %	**K** = bulk pack **T** = tray pack	(dash number) from **1 to 99** as applicable

For technical questions, contact: ww2cresistors@vishay.com

EXTERNAL DIMENSIONS in inches [millimeters]

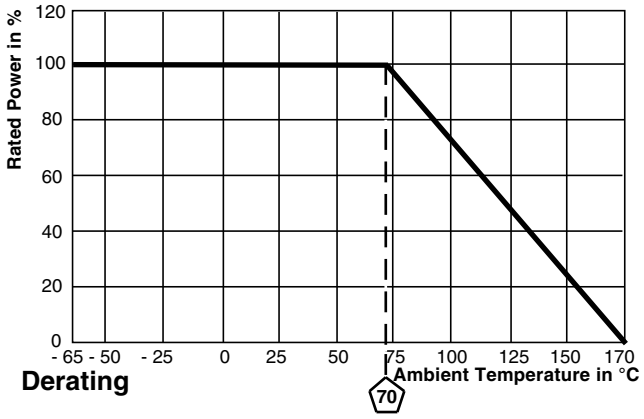


INTERNAL DIMENSIONS in inches [millimeters]



RESISTANCE VALUE (μΩ)	ELEMENT MATERIAL	A REF.	B ± 0.005 [± 0.13]
50	Mn-Cu	0.423 [10.74]	0.135 [3.43]
100	Mn-Cu	0.242 [6.15]	0.495 [12.57]
125	Mn-Cu	0.197 [5.00]	0.585 [14.86]
500	Ni-Cr	0.143 [3.63]	0.695 [17.65]

DERATING



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	5x rated power for 5 s	± 0.5 % Δ*R*
Low temperature storage	-65 °C for 24 h	± 0.5 % 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	± 0.5 % Δ*R*
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	± 0.5 % 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	± 0.5 % Δ*R*

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