Power Metal Strip® Battery Shunt Resistor W/Molded Enclosure Very Low Value (100 μΩ)

FEATURES

- High power to resistor size ratio
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Solid metal manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Molded enclosure allows for easy PCB connection
- Includes 4-pin female connector that mates with a Molex type MX150 #33472-0401 connector
- Very low inductance (< 5 nH)
- Low thermal EMF (< 3 μV/°C)
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

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

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	5.0	0.0001	100μ	60

Note

(1) Other values may be available, contact factory

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 225
Temperature Coefficient (Element material)	ppm/°C	± 20
Operating Temperature Range	°C	- 65 to + 170
Thermal EMF	μV/°C	< 3
Inductance	nH	< 5
Maximum Current Rating	A	$(P/R)^{1/2}$

GLOBAL PART NUMBER INFORMATION

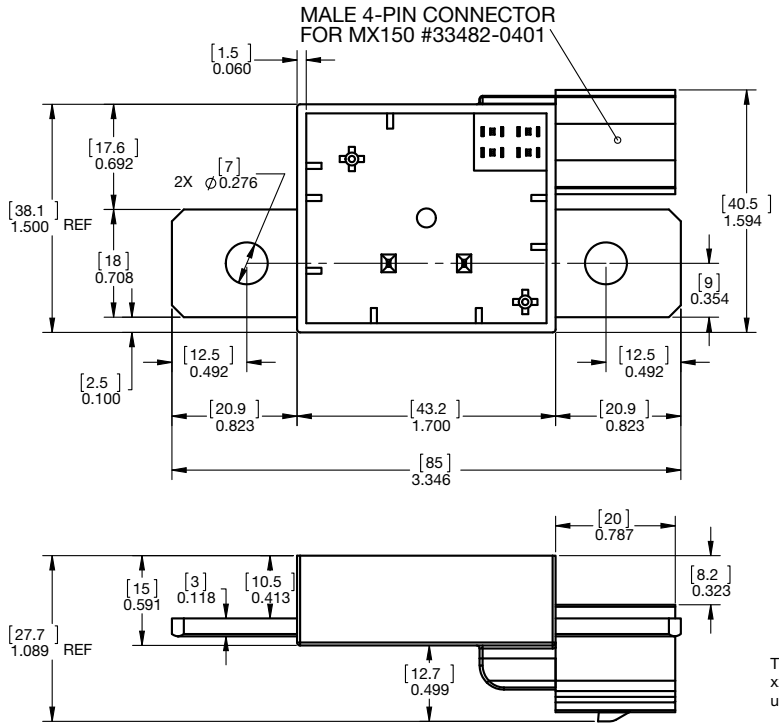
GLOBAL PART NUMBERING: WSBM8518L1000JK (WSBM8518, 0.000100 Ω, ± 5 %)

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

GLOBAL MODEL (8 digits)	RESISTANCE VALUE (5 digits)	TOLERANCE CODE (1 digit)	PACKAGING CODE (1 digit)	SPECIAL (up to 2 digits)
WSBM8518	**L** = mΩ **L1000** = 0.000100 Ω	**J** = ± 5.0 %	**K** = Bulk pack	(Dash number) From **1 to 99** as applicable

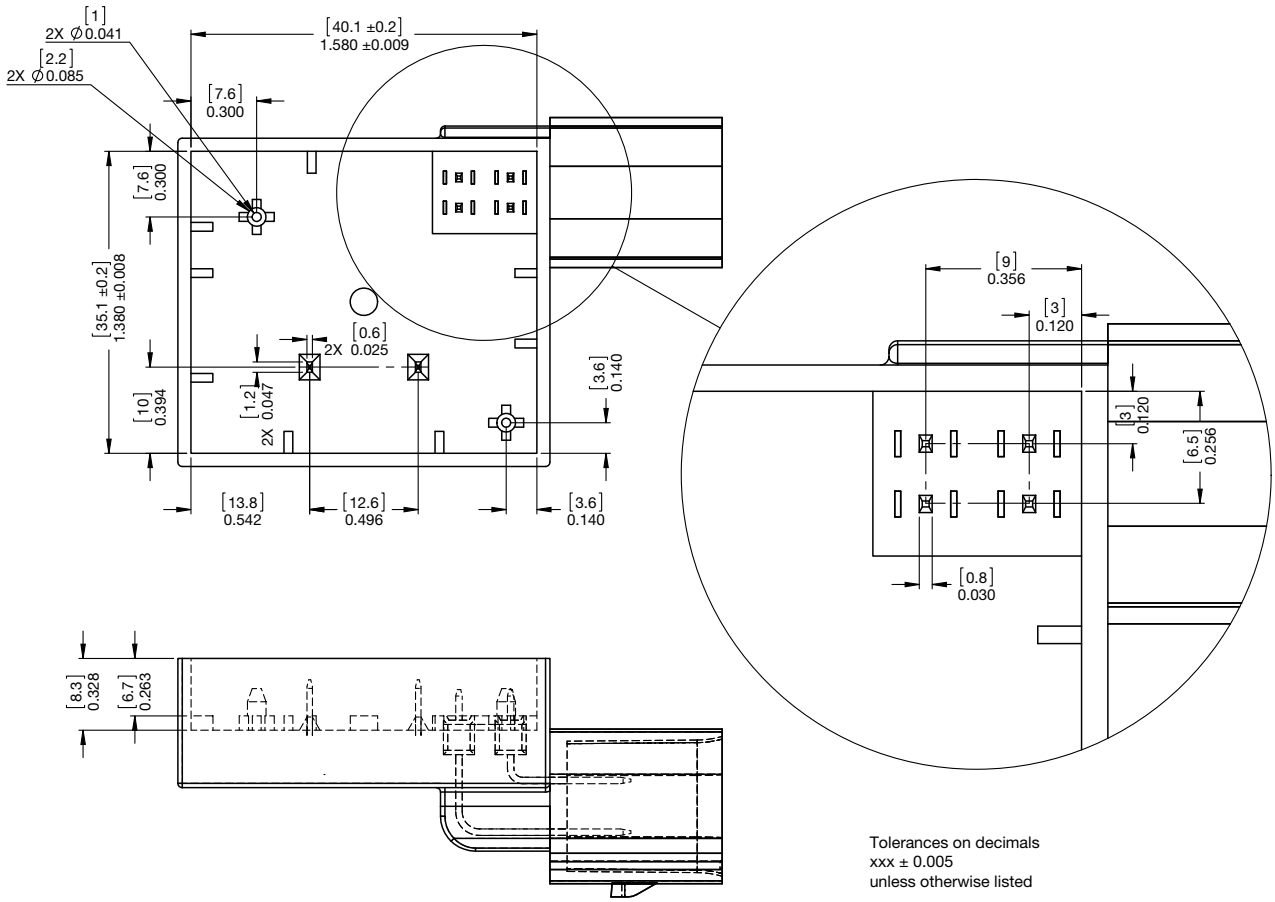
For technical questions, contact: ww2bresistors@vishay.com

EXTERNAL DIMENSIONS in inches [millimeters]



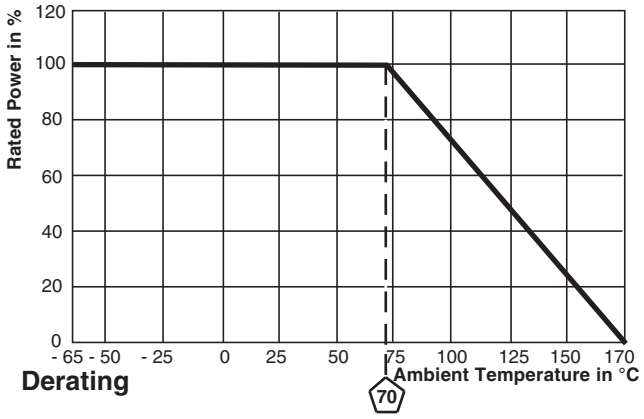
Tolerances on decimals
xxx ± 0.005
unless otherwise listed

INTERNAL DIMENSIONS in inches [millimeters]



Tolerances on decimals
xxx ± 0.005
unless otherwise listed

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	5 x rated power for 5 s	± 0.5 % Δ*R*
Low Temperature Operation	- 65 °C for 45 min	± 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*

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.