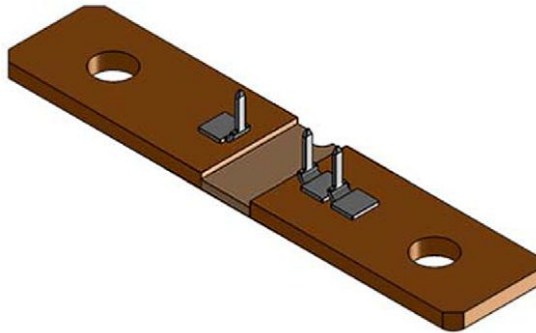


Power Metal Strip® Shunt Resistor With Three Sense Pins, Very Low Value (50 μΩ, 100 μΩ, and 125 μΩ)



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 (< 1 μV/°C available)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

DESIGN TOOLS (click logo to get started)



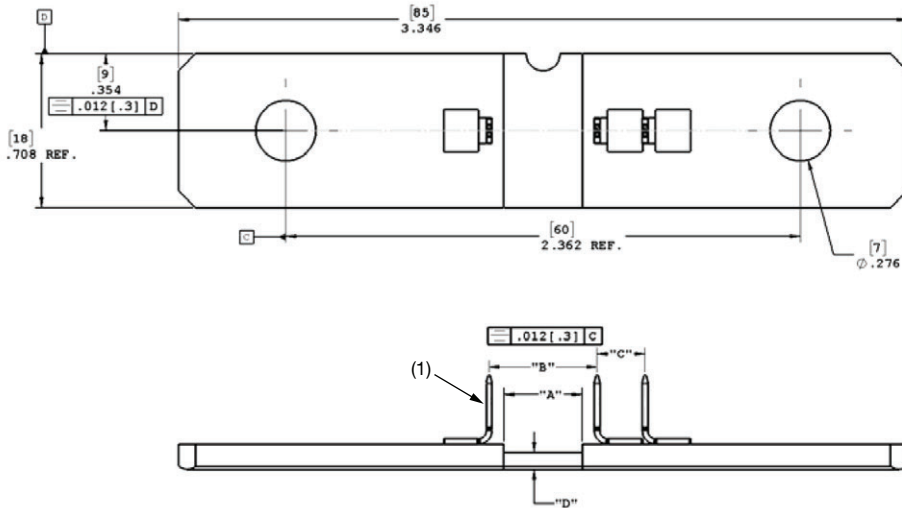
STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	SIZE	POWER RATING $P_{70^\circ\text{C}}$ W	TOLERANCE $\pm \%$	RESISTANCE VALUE RANGE Ω	RESISTANCE VALUES CURRENTLY AVAILABLE ⁽¹⁾ Ω	WEIGHT (typical) g
WSBS8518...40	8518	36	5, 10	50μ to 1000μ	50μ, 100μ, 125μ	50μ = 38.6, 100μ / 125μ = 37.1

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

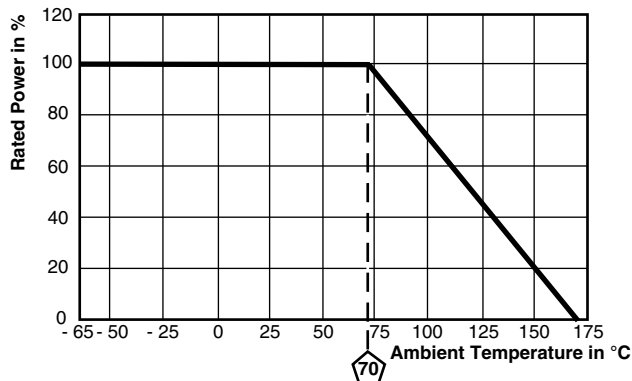
GLOBAL PART NUMBER INFORMATION																
GLOBAL PART NUMBERING: WSBS8518L1000JT40 (WSBS8518...40, 0.000100 Ω, ± 5 %, tray pack)																
W	S	B	S	8	5	1	8	L	1	0	0	0	J	T	4	0
GLOBAL MODEL			RESISTANCE VALUE			TOLERANCE CODE			PACKAGING CODE			SPECIAL				
WSBS8518			L = mΩ L0500 = 0.000050 Ω L1000 = 0.000100 Ω L1250 = 0.000125 Ω			J = ± 5 % K = ± 10 %			K = bulk pack T = tray pack			40 = three sense pins attached				

DIMENSIONS in inches (millimeters)


RESISTANCE VALUE ($\mu\Omega$)	ELEMENT MATERIAL	A REFERENCE	B ± 0.005 [± 0.13]	C ± 0.005 [± 0.13]	D ± 0.002 [± 0.05]
50	Mn-Cu	0.145 [3.68]	0.135 [3.43]	0.220 [5.59]	0.079 [2.00]
100	Mn-Cu	0.370 [9.40]	0.495 [12.57]	0.220 [5.59]	0.079 [2.00]
125	Mn-Cu	0.480 [12.19]	0.585 [14.86]	0.220 [5.59]	0.079 [2.00]

Note

(1) Minimum pull strength of 200 N

DERATING


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

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	$\pm 0.5\% \Delta R$
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	$\pm 0.5\% \Delta R$
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	$\pm 0.5\% \Delta R$
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	$\pm 0.5\% \Delta R$



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.