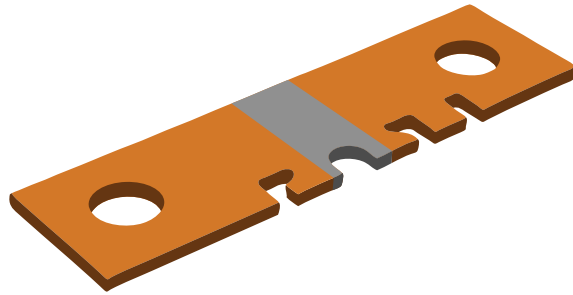


## Power Metal Strip® Meter Shunt Resistor, Very Low Value (down to 0.00010 Ohms)



### FEATURES

- High power to resistor size ratio
- 4-terminal (Kelvin) connection design
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Very low inductance (< 0.5 nH)
- Low thermal EMF (< 3  $\mu\text{V}/^\circ\text{C}$ )
- PATENT(S): [www.vishay.com/patents](http://www.vishay.com/patents)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	SIZE	POWER RATING $P_{70^\circ\text{C}}$ W	TOLERANCE %	RESISTANCE VALUE RANGE $\Omega$	RESISTANCE VALUES CURRENTLY AVAILABLE <sup>(1)</sup> $\Omega$	WEIGHT (typical) g/1000 pieces
WSMS5515	5515	3.0	5.0	50 $\mu$ to 1000 $\mu$	100 $\mu$ , 160 $\mu$ , 200 $\mu$ , 250 $\mu$ , 300 $\mu$ , 500 $\mu$	7800

**Note**

<sup>(1)</sup> Other values may be available, contact factory

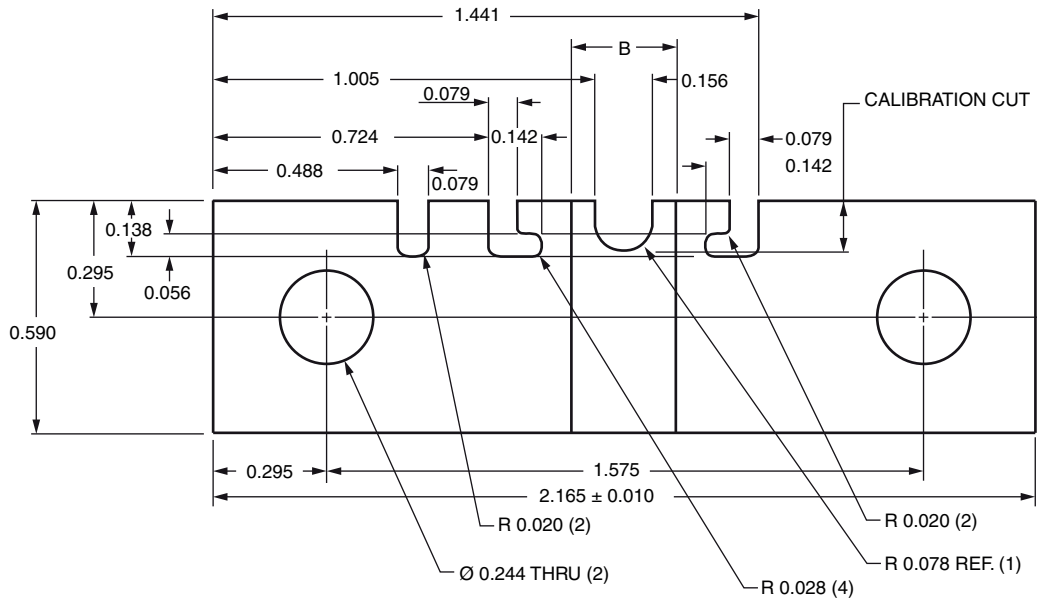
TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/ $^\circ\text{C}$	$\pm 325$ for 100 $\mu\Omega$ , $\pm 225$ for 160 $\mu\Omega$ , 200 $\mu\Omega$ , and 250 $\mu\Omega$ , $\pm 175$ for 300 $\mu\Omega$ to 500 $\mu\Omega$
Operating temperature range	$^\circ\text{C}$	-65 to +170
Maximum current rating	A	$(P/R)^{1/2}$

GLOBAL PART NUMBER INFORMATION																
GLOBAL PART NUMBERING: WSMS5515L2500JK (WSMS5515, 0.00025 $\Omega$ , $\pm 5\%$ )																
W	S	M	S	5	5	1	5	L	2	5	0	0	J	K		
GLOBAL MODEL		RESISTANCE VALUE				TOLERANCE CODE		PACKAGING CODE				SPECIAL				
WSMS5515		L = m $\Omega$ L1000 = 0.00010 $\Omega$ L1600 = 0.00016 $\Omega$ L2000 = 0.00020 $\Omega$ L2500 = 0.00025 $\Omega$ L3000 = 0.00030 $\Omega$ L5000 = 0.00050 $\Omega$				J = $\pm 5.0\%$		K = bulk pack				(Dash number) (Up to 2 digits) From 1 to 99 as applicable				

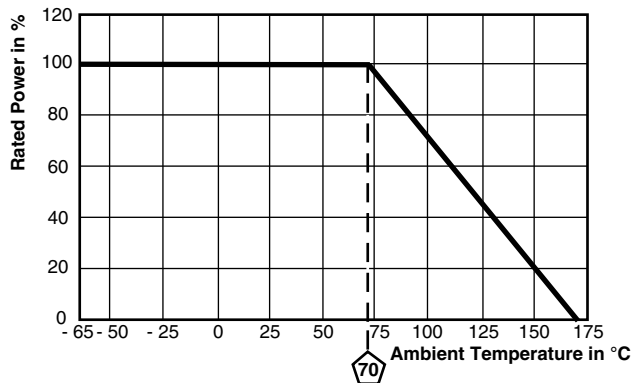
PATENT(S): [www.vishay.com/patents](http://www.vishay.com/patents)

This Vishay product is protected by one or more United States and International patents.

**DIMENSIONS** in inches



**DERATING**



TOLERANCES ON DECIMALS  
XXX ± 0.005

RESISTANCE VALUE (μΩ)	RESISTOR THICKNESS (inches)	B DIMENSION (inches)	ELEMENT MATERIAL
100	0.033	0.116	Mn-Cu
160	0.051	0.276	Mn-Cu
200	0.051	0.276	Mn-Cu
250	0.033	0.276	Mn-Cu
300	0.033	0.276	Mn-Cu
500	0.059	0.276	Fe-Cr

PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal shock	-55 °C to +150 °C, 1000 cycles, 15 min at each extreme	± 0.5 % ΔR
Short time overload	5x rated power for 5 s	± 0.5 % ΔR
Low temperature operation	-65 °C for 45 min	± 0.5 % ΔR
High temperature exposure	1000 h at +170 °C	± 1.0 % ΔR
Bias humidity	+85 °C, 85 % RH, 10 % bias, 1000 h	± 0.5 % ΔR
Mechanical shock	100 g's for 6 ms, 5 pulses	± 0.5 % ΔR
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	± 0.5 % ΔR
Load life	1000 h at +70 °C, 1.5 h "ON", 0.5 h "OFF"	± 1.0 % ΔR
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7b not required	± 0.5 % ΔR



## **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.