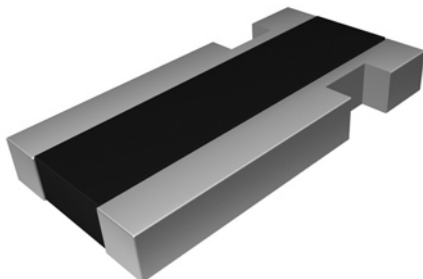


# Power Metal Strip® Resistors, High Power, Surface Mount, 4-Terminal



## FEATURES

- 4-Terminal design
- Ideal for all types of current sensing, voltage division and pulse applications
- Proprietary processing technique produces extremely low resistance values
- Durable with all-welded construction
- Low thermal EMF ( $< 3 \mu\text{V}/^\circ\text{C}$ )
- Solid metal nickel-chrome or manganese-copper resistive element with low TCR ( $< 20 \text{ ppm}/^\circ\text{C}$ )
- Compliant to RoHS Directive 2002/95/EC
- AEC-Q200 qualified available <sup>(1)</sup>

AUTOMOTIVE  
GRADE  
Available



**RoHS**  
COMPLIANT  
**GREEN**  
(5-2008)\*\*

## Note

<sup>(1)</sup> Flame retardance test may not be applicable to some resistor technologies.

## Note

\*\* Please see document "Vishay Material Category Policy": [www.vishay.com/doc?99902](http://www.vishay.com/doc?99902)

## STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	POWER RATING $P_{70^\circ\text{C}}$ W	TOLERANCE $\pm \%$	RESISTANCE VALUE RANGE $\Omega$	RESISTANCE VALUES CURRENTLY AVAILABLE <sup>(2)</sup> $\Omega$	WEIGHT (typical) g/1000 pieces
WSK0612	0612	1.0	1.0	0.50m to 5.0m	0.5m, 0.75m, 1m, 2m, 3m, 4m, 5m	8.2

## Note

<sup>(2)</sup> Other values may be available, contact factory.

## TECHNICAL SPECIFICATIONS

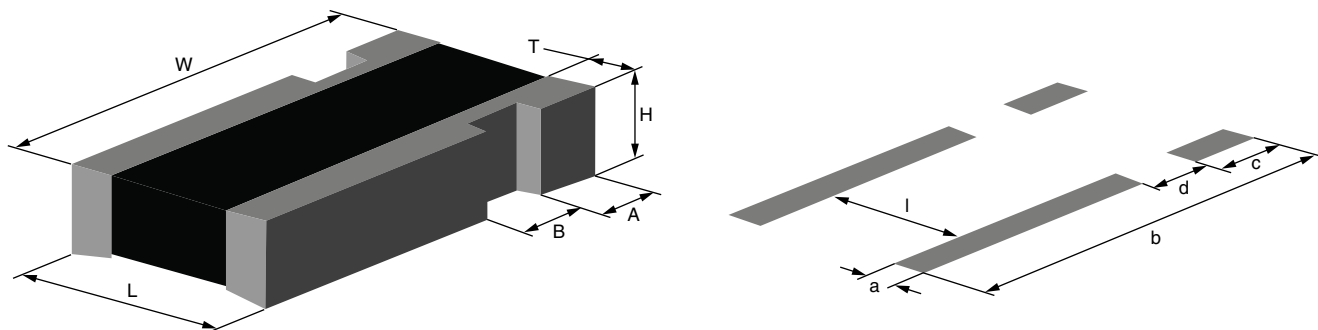
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/ $^\circ\text{C}$	$\pm 600$ for 0.5 m $\Omega$ and 0.75 m $\Omega$ , $\pm 275$ for 1 m $\Omega$ , $\pm 225$ for 2 m $\Omega$ , $\pm 150$ for 3 m $\Omega$ , 4 m $\Omega$ and 5 m $\Omega$
Operating temperature range	$^\circ\text{C}$	- 65 to + 170
Maximum working voltage	V	$(P \times R)^{1/2}$

## GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: WSK06121L000FEA

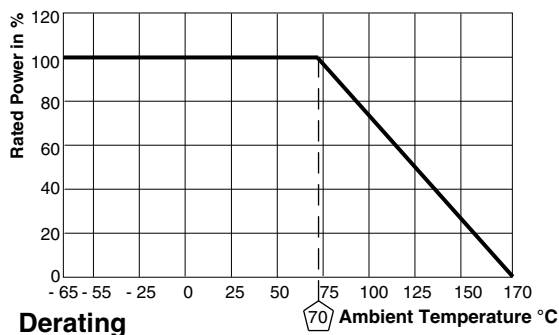
W	S	K	0	6	1	2	1	L	0	0	0	F	E	A		
GLOBAL MODEL			RESISTANCE VALUE				TOLERANCE CODE		PACKAGING CODE				SPECIAL			
WSK0612			L = m $\Omega$ L5000 = 0.0005 $\Omega$ L7500 = 0.00075 $\Omega$ 1L000 = 0.001 $\Omega$ 2L000 = 0.002 $\Omega$ 3L000 = 0.003 $\Omega$ 4L000 = 0.004 $\Omega$ 5L000 = 0.005 $\Omega$				F = $\pm 1.0 \%$		EA = Lead (Pb)-free, tape/reel EK = Lead (Pb)-free, bulk				(Dash number) (Up to 2 digits) From 1 to 99 as applicable			

## DIMENSIONS



MODEL	DIMENSIONS in inches (millimeters)					
	L	W	H	T	A	B
WSK0612	0.060 ± 0.010 (1.50 ± 0.254)	0.120 ± 0.010 (3.05 ± 0.254)	0.015 ± 0.010 (0.381 ± 0.254)	0.015 ± 0.010 (0.381 ± 0.254)	0.020 ± 0.005 (0.51 ± 0.127)	0.020 ± 0.005 (0.51 ± 0.127)

MODEL	SOLDER PAD DIMENSIONS in inches (millimeters)				
	a	b	c	d	l
WSK0612	0.040 (1.01)	0.135 (3.43)	0.030 (0.762)	0.015 (0.381)	0.030 (0.76)



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal shock	- 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme	± 1.0 % $\Delta R$
Short time overload	5 x rated power for 5 s	± 0.5 % $\Delta R$
Low temperature operation	- 65 °C for 45 min	± 0.5 % $\Delta R$
High temperature exposure	1000 h at + 170 °C	± 2.0 % $\Delta R$
Bias humidity	+ 85 °C, 85 % RH, 10 % bias, 1000 h	± 0.5 % $\Delta R$
Mechanical shock	100 g's for 6 ms, 5 pulses	± 0.5 % $\Delta R$
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	± 0.5 % $\Delta R$
Load life	1000 h at + 70 °C, 1.5 h "ON", 0.5 h "OFF"	± 2.0 % $\Delta R$
Resistance to solder heat	+ 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± 0.5 % $\Delta R$
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7a and 7b not required	± 1.0 % $\Delta R$

PACKAGING				
MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSK0612	8 mm/embossed plastic	178 mm/7"	4000	EA

### Note

- Embossed Carrier Tape per EIA-481.



## 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 and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. 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.