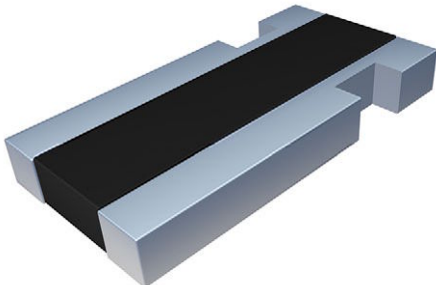




## Power Metal Strip® Resistors, High Power, Surface-Mount, 4-Terminal



### FEATURES

- 4-terminal design
- All welded construction of the Power Metal Strip® resistors are ideal for all types of current sensing, voltage division, and pulse applications
- Proprietary processing technique produces extremely low resistance values
- Sulfur resistance by construction that is unaffected by high sulfur environments
- Low thermal EMF ( $< 3 \mu\text{V}/^\circ\text{C}$ )
- Solid metal nickel-chrome or manganese-copper resistive element with low TCR ( $< 20 \text{ ppm}/^\circ\text{C}$ )
- AEC-Q200 qualified available <sup>(1)</sup>
- 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)



### LINKS TO ADDITIONAL RESOURCES



#### Notes

- Follow link to Overview of Automotive Grade Products for more details: [www.vishay.com/doc?49924](http://www.vishay.com/doc?49924)
- <sup>(1)</sup> Flame retardance test may not be applicable to some resistor technologies

### 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>(1)</sup> $\Omega$	WEIGHT (typical) g/1000 pieces
WSK0612	0612	1.0	1.0	0.50m to 5.0m	0.5m, 0.75m, 0.8m, 1m, 2m, 3m, 4m, 5m	8.2

#### Note

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

### GLOBAL PART NUMBER INFORMATION

Global Part Numbering Example: WSK06121L000FEA (visit [www.vishay.net](http://www.vishay.net) Vishay Dale parts numbering manual for all options)



GLOBAL MODEL  
(7 digits)  
**WSK0612**

RESISTANCE VALUE  
(5 digits)  
L = m $\Omega$   
L5000 = 0.0005  $\Omega$   
L7500 = 0.00075  $\Omega$   
L8000 = 0.0008  $\Omega$   
1L000 = 0.001  $\Omega$   
2L000 = 0.002  $\Omega$   
3L000 = 0.003  $\Omega$   
4L000 = 0.004  $\Omega$   
5L000 = 0.005  $\Omega$

TOLERANCE CODE  
(1 digit)  
F =  $\pm 1.0 \%$

PACKAGING CODE <sup>(1)</sup>  
(2 digits)  
EA = lead (Pb)-free, tape/reel  
EK = lead (Pb)-free, bulk

SPECIAL  
(2 digits)  
(dash number)  
(up to 2 digits)  
from 1 to 99 as applicable

#### Note

- <sup>(1)</sup> EB (lead (Pb)-free) is a non-standard packaging code designating 1000 piece reels. The non-standard packaging code is identical to our standard EA (lead (Pb)-free), except that it has a package quantity of 1000 pieces

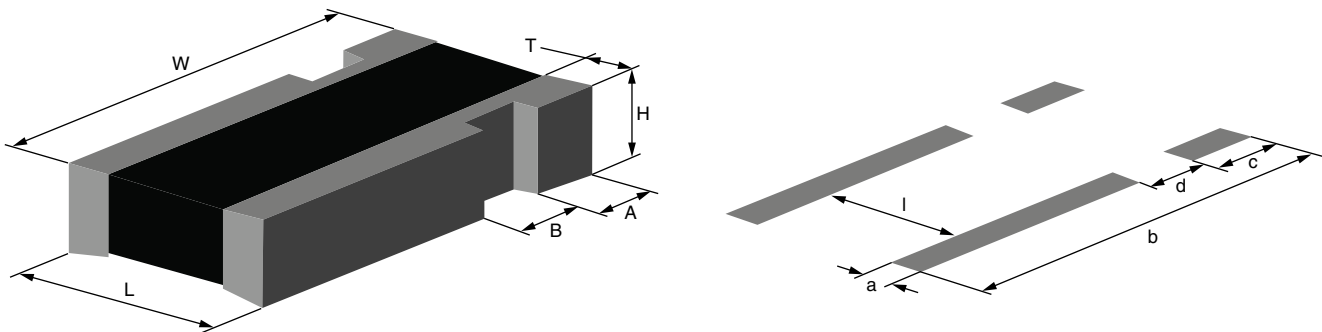
PATENT(S): [www.vishay.com/patents](http://www.vishay.com/patents)

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



TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	0 to -600 for 0.5 mΩ
		± 200 for 0.75 mΩ
		0 to -275 for 1 mΩ
		0 to -225 for 2 mΩ
		0 to -150 for 3 mΩ, 4 mΩ, and 5 mΩ
Operating temperature range	°C	-65 to +170
Maximum working voltage	V	$(P \times R)^{1/2}$

**DIMENSIONS**



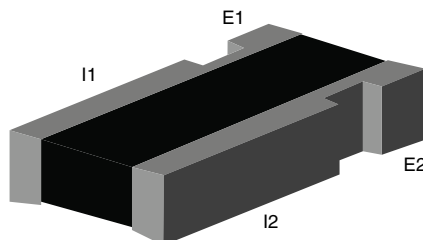
**Notes**

- 3D models available: [www.vishay.com/doc?30378](http://www.vishay.com/doc?30378)
- Surface mount solder profile recommendations: [www.vishay.com/doc?31052](http://www.vishay.com/doc?31052)

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)

**4 TERMINAL KELVIN CONNECTIONS**

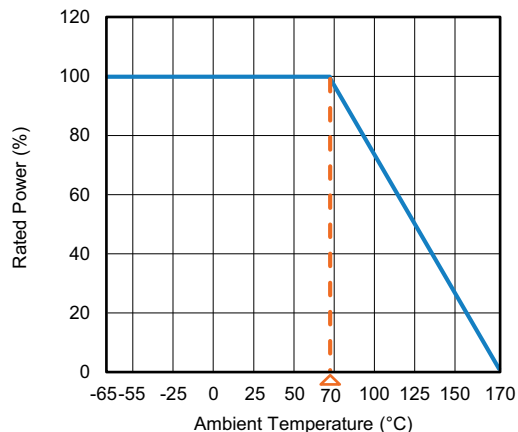


**Notes**

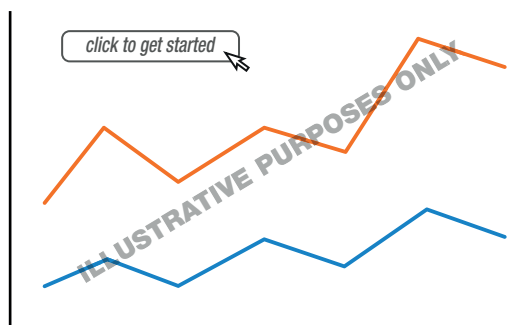
- E1 and E2: voltage sense connection
- I1 and I2: current connection



**DERATING**



**PULSE CAPABILITY**



[www.vishay.com/resistors/power-metal-strip-calculator](http://www.vishay.com/resistors/power-metal-strip-calculator)

PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal shock	-55 °C to +150 °C, 1000 cycles, 15 min at each extreme	± 1.0 %
Short time overload	5 x rated power for 5 s	± 0.5 %
Low temperature operation	-65 °C for 24 h	± 0.5 %
High temperature exposure	1000 h at +170 °C	± 2.0 %
Bias humidity	+85 °C, 85 % RH, 10 % bias, 1000 h	± 0.5 %
Mechanical shock	100 g's for 6 ms, 5 pulses	± 0.5 %
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	± 0.5 %
Load life	1000 h at +70 °C, 1.5 h "ON", 0.5 h "OFF"	± 2.0 %
Resistance to solder heat	+260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± 0.5 %
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7a and 7b not required	± 1.0 %

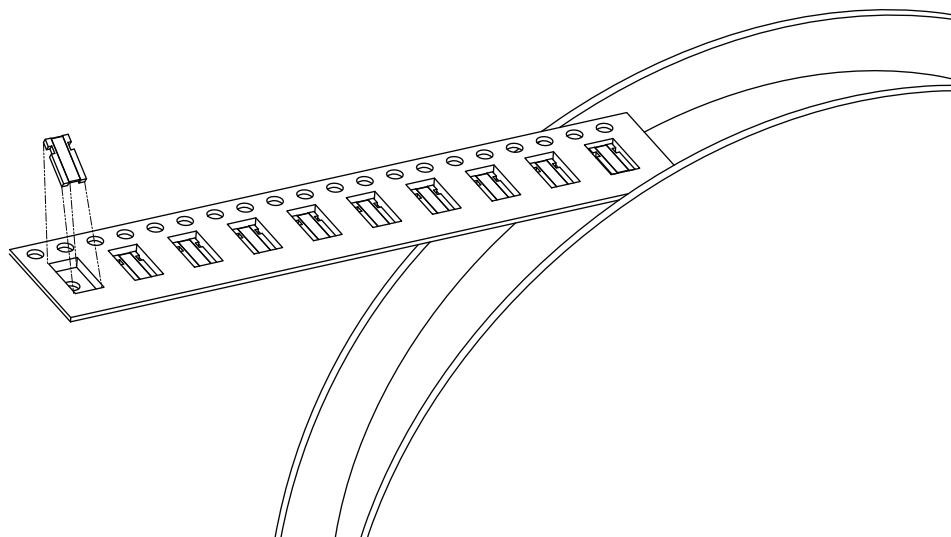


PACKAGING (1)				
MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSK0612	8 mm / embossed plastic	178 mm / 7"	4000	EA

**Notes**

- Embossed carrier tape per EIA-481
- (1) Additional packaging details at [www.vishay.com/doc?20051](http://www.vishay.com/doc?20051)

**REEL ORIENTATION**





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