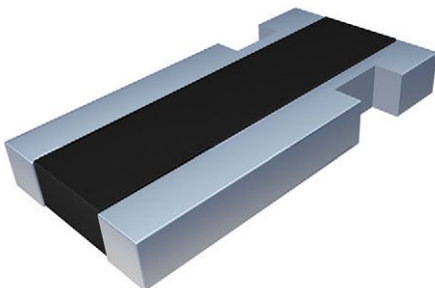




Power Metal Strip® Resistors, High Power, Surface-Mount, 4-Terminal



LINKS TO ADDITIONAL RESOURCES



3D Models



Design Tools

Notes

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

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 (1)
- PATENT(S): www.vishay.com/patents
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE
GRADE
Available
RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

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/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

- (1) Other values may be available, contact factory

GLOBAL PART NUMBER INFORMATION

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

W S K 0 6 1 2 1 L 0 0 0 F E A

GLOBAL MODEL
(7 digits)
WSK0612

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

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

PACKAGING CODE (1)
(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

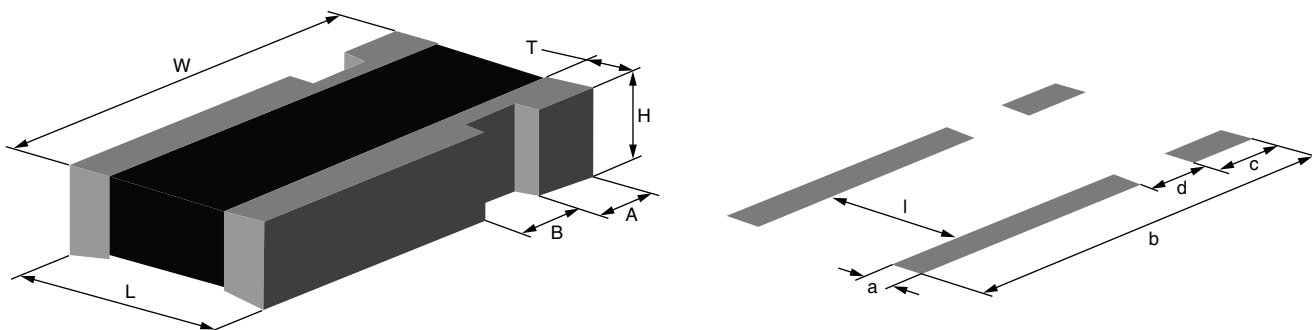
- (1) EB (lead (Pb)-free) is a non-standard packaging code designating 1000 piece reels. The non-standard packaging code is identical to our standard EA (lead (Pb)-free), except that it has a package quantity of 1000 pieces

PATENT(S): www.vishay.com/patents

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

**TECHNICAL SPECIFICATIONS**

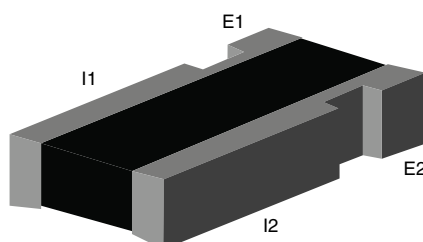
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	0 to -600 for 0.5 mΩ
		± 200 for 0.75 mΩ
		0 to -275 for 1 mΩ
		0 to -225 for 2 mΩ
		0 to -150 for 3 mΩ, 4 mΩ, and 5 mΩ
Operating temperature range	°C	-65 to +170
Maximum working voltage	V	$(P \times R)^{1/2}$

DIMENSIONS**Notes**

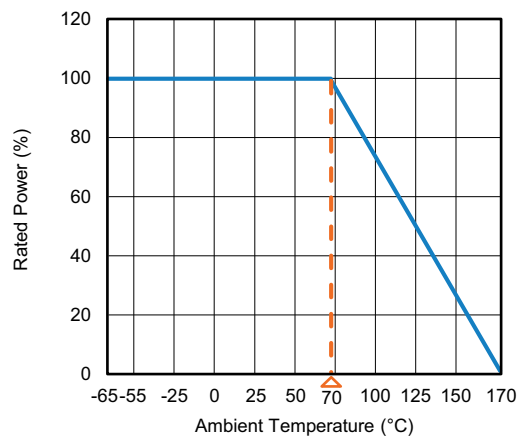
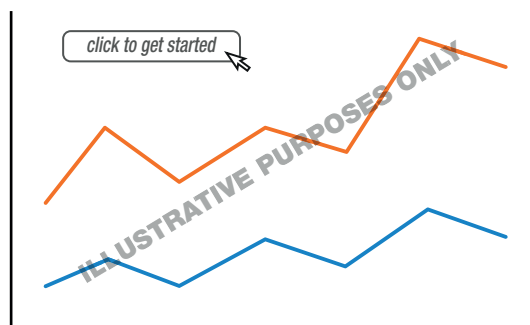
- 3D models available: www.vishay.com/doc?30378
- Surface mount solder profile recommendations: www.vishay.com/doc?31052

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

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 %

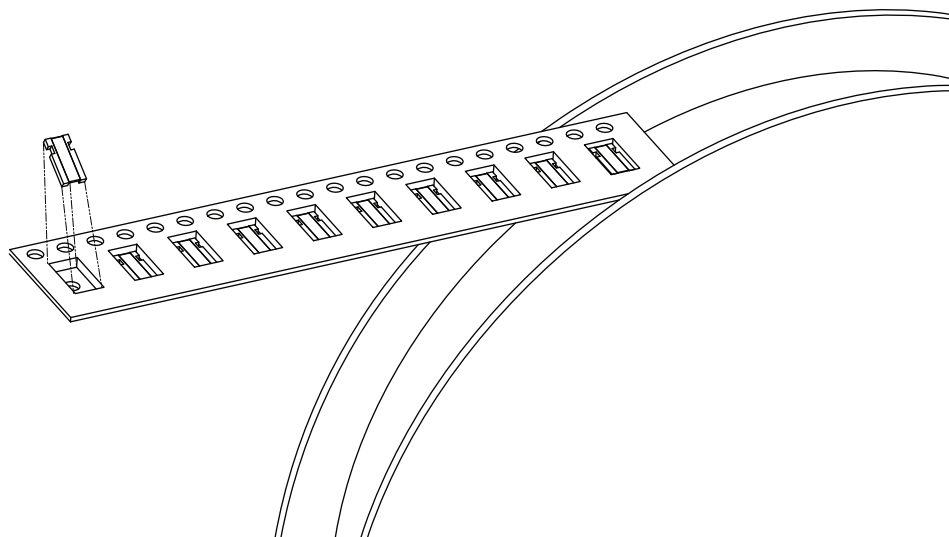


PACKAGING ⁽¹⁾				
MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSK0612	8 mm / embossed plastic	178 mm / 7"	4000	EA

Notes

- Embossed carrier tape per EIA-481

⁽¹⁾ Additional packaging details at www.vishay.com/doc?20051

REEL ORIENTATION



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