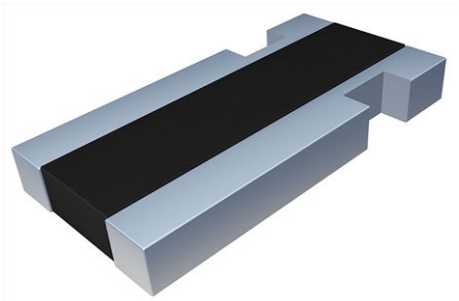
Power Metal Strip® Resistors, High Power, Surface Mount, 4-Terminal



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 µV/°C)
- Solid metal nickel-chrome or manganese-copper resistive element with low TCR (< 20 ppm/°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

Pb-free

e3

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

DESIGN SUPPORT TOOLS

click logo to get started

3D Models Available

Design Tools Available

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

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	POWER RATING $P_{70\,°C}$ W	TOLERANCE ± %	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)	RESISTANCE VALUE (5 digits)	TOLERANCE CODE (1 digit)	PACKAGING CODE (1) (2 digits)	SPECIAL (2 digits)
WSK0612	**L** = mΩ **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	**F** = ± 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

Note

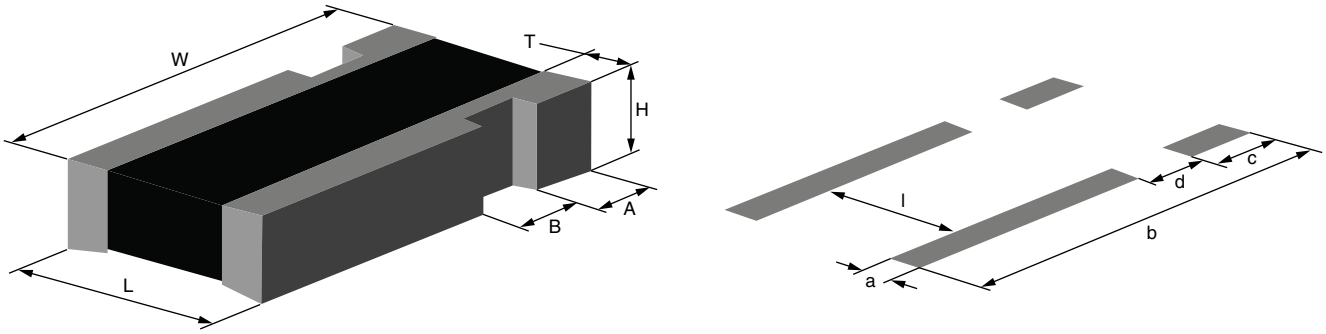
(1) EB (lead (Pb)-free) is a non-standard packaging code designating 1000 piece reels. The non-standard packaging code is identical to our standard EA (lead (Pb)-free), except that it has a package quantity of 1000 pieces

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



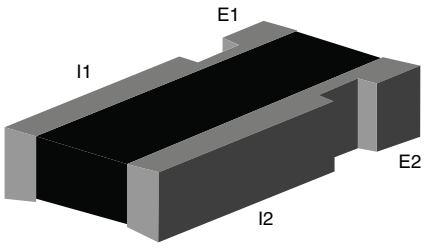
Notes

- 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)

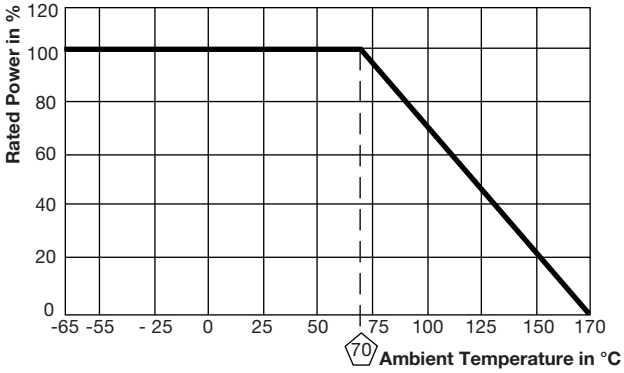
4 TERMINAL KELVIN CONNECTIONS



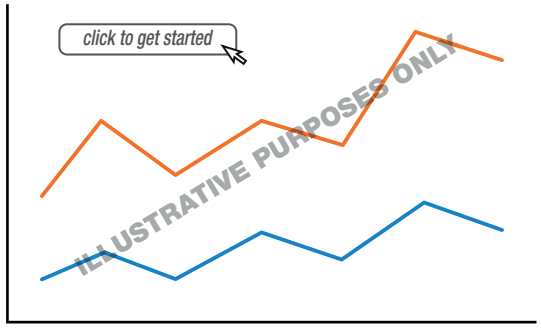
Notes

- 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	5x 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

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