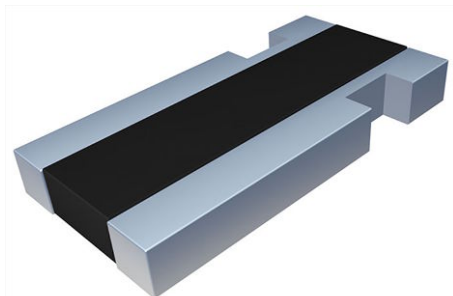


Power Metal Strip® Resistors, High Power, Surface Mount, 4-Terminal



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 low resistance values
- Solid metal nickel-chrome and manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Low thermal EMF (< 3 µV/°C)
- AEC-Q200 qualified ⁽¹⁾
- PATENT(S): www.vishay.com/patents
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE
GRADE

RoHS*
Available

HALOGEN
FREE
Available

GREEN
(5-2008)
Available

Notes

- * This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details
- 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 $P_{70^{\circ}\text{C}}$ W	TOLERANCE $\pm$ %	RESISTANCE VALUE RANGE ⁽¹⁾ Ω	WEIGHT (typical) g/1000 pieces
WSKW0612	0612	1.0	1.0, 5.0	1m, 2m, 3m	8.5

Note

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

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: WSKW06121L000FEA (visit www.vishay.net Vishay Dale parts numbering manual for all options)

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

GLOBAL MODEL
(8 digits)

WSKW0612

RESISTANCE VALUE
(5 digits)

L = mΩ
1L000 = 0.001 Ω
2L000 = 0.002 Ω
3L000 = 0.003 Ω

TOLERANCE CODE
(1 digit)

F = $\pm$ 1.0 %
J = $\pm$ 5.0 %

PACKAGING CODE ⁽¹⁾
(2 digits)

EA = lead (Pb)-free, tape / reel
EK = lead (Pb)-free, bulk

SPECIAL
(up to 2 digits)

(dash number)
from **1** to **99** as
applicable

Note

- (1) Packaging code: EB (lead (Pb)-free) are non-standard packaging codes designating 1000 piece reels. These non-standard packaging codes are identical to our standard EA (lead (Pb)-free), except that they have a package quantity of 1000 pieces

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

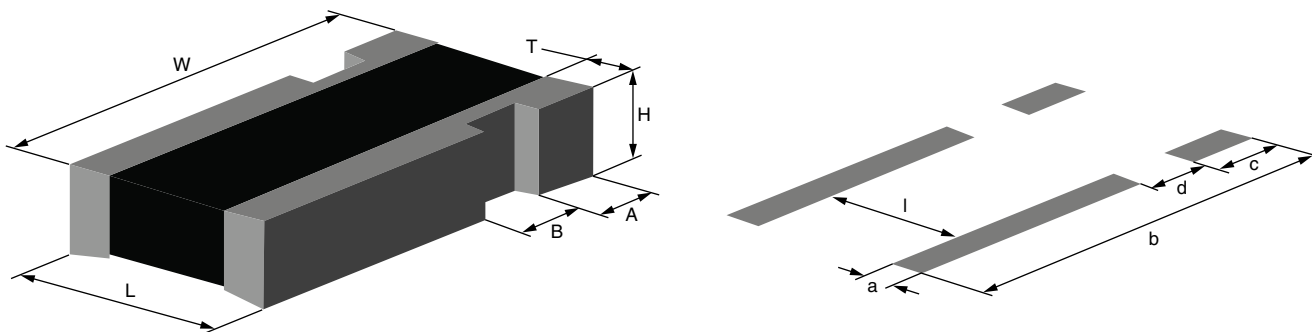
This Vishay product is protected by one or more United States and International patents.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Component temperature coefficient (including terminal) ⁽¹⁾	ppm/°C	± 150 for 1 mΩ and 2 mΩ
		± 75 for 3 mΩ
Element TCR ⁽²⁾	ppm/°C	< 20
Operating temperature range	°C	-65 to +170
Maximum working voltage ⁽³⁾	V	$(P \times R)^{1/2}$

Notes

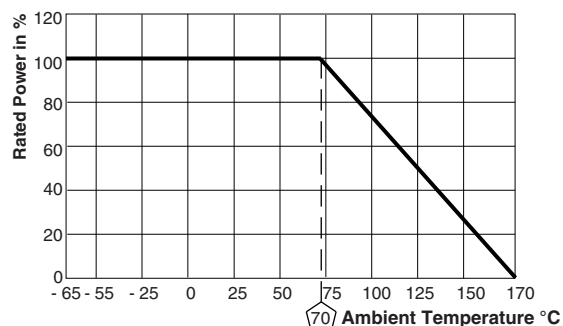
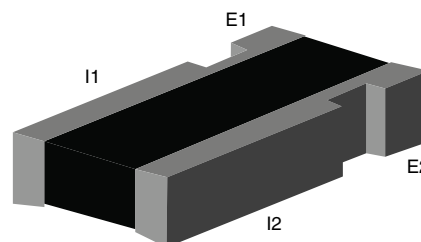
- (1) Component TCR - total TCR that includes the TCR effects of the resistor element and the copper terminal
- (2) Element TCR - only applies to the alloy used for the resistor element
- (3) Maximum working voltage - the WSL is not voltage sensitive, but is limited by power / energy dissipation and is also not ESD sensitive

DIMENSIONS

Note

- Surface mount solder profile recommendations: www.vishay.com/doc?31052

MODEL	DIMENSIONS in inches (millimeters)					
	L	W	H	T	A	B
WSKW0612	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
WSKW0612	0.040 (1.01)	0.135 (3.43)	0.030 (0.762)	0.015 (0.381)	0.030 (0.76)

DERATING

4 TERMINAL KELVIN CONNECTIONS

Note

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



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal shock	-55 °C to +150 °C, 1000 cycles, 15 min at each extreme	± 1.0 %
Low temperature operation	-65 °C for 45 min	± 0.5 %
High temperature exposure	1000 h at +170 °C	± 1.0 %
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	2000 h at +70 °C, 1.5 h "ON", 0.5 h "OFF"	± 1.0 %
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, 7b not required	± 1.0 %

PACKAGING				
MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSKW0612	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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