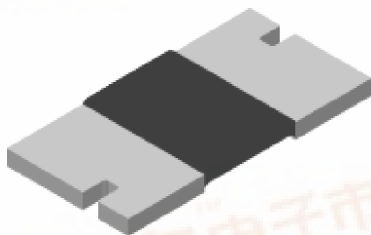


Power Metal Strip® Resistors, Low Value (down to 0.001 Ω), Surface Mount, 4-Terminal



FEATURES

- 4-Terminal design allows for 1 % tolerance down to 0.001 Ω and 0.5 % tolerance down to 0.003 Ω
- Ideal for all types of precision current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifiers
- Proprietary processing technique produces extremely low resistance values (down to 0.001 Ω)
- All welded construction
- Solderable terminations
- Solid metal nickel-chrome or manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Very low inductance 0.5 nH to 5 nH
- Excellent frequency response to 50 MHz
- Compliant to RoHS directive 2002/95/EC



RoHS*
COMPLIANT
GREEN
(5-2009)**
Available

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	POWER RATING $P_{70^\circ\text{C}}$ W	RESISTANCE VALUE RANGE Ω		WEIGHT (typical) g/1000 pieces
			Tol. $\pm 0.5\%$	Tol. $\pm 1.0\%$	
WSK2512	2512	1.0	0.003 to 0.025	0.001 to 0.025	63.6

Note

- Part marking: DALE, value, tolerance; due to resistor size limitations some resistance values will be marked with only the resistance value.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	± 250 for 0.001 Ω to 0.0029 Ω , ± 75 for 0.003 Ω to 0.0049 Ω , ± 35 for 0.005 Ω to 0.025 Ω
Operating temperature range	°C	- 65 to + 170
Maximum working voltage	V	$(P \times R)^{1/2}$

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: WSK25125L000FTA (preferred part numbering format)

W S K 2 5 1 2 5 L 0 0 0 F T A

GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING CODE	SPECIAL
WSK2512	L = m Ω * R = Decimal 5L000 = 0.005 Ω R0100 = 0.01 Ω * Use "L" for resistance values < 0.01 Ω	D = $\pm 0.5\%$ F = $\pm 1.0\%$	EA = Lead (Pb)-free, tape/reel EK = Lead (Pb)-free, bulk TA = Tin/lead, tape/reel (R86) BA = Tin/lead, bulk (B43)	(Dash number) (up to 2 digits) From 1 to 99 as applicable

Historical Part Number Example: WSK2512 0.005 Ω 1 % R86 (will continue to be accepted)

WSK2512	0.005 Ω	1 %	R86
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING CODE

* Pb containing terminations are not RoHS compliant, exemptions may apply

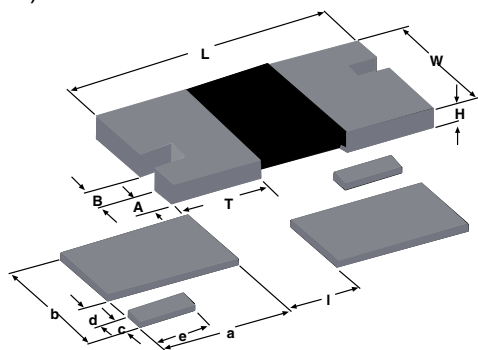
** Please see document "Vishay Material Category Policy": www.vishay.com/doc?99902



Power Metal Strip® Resistors,
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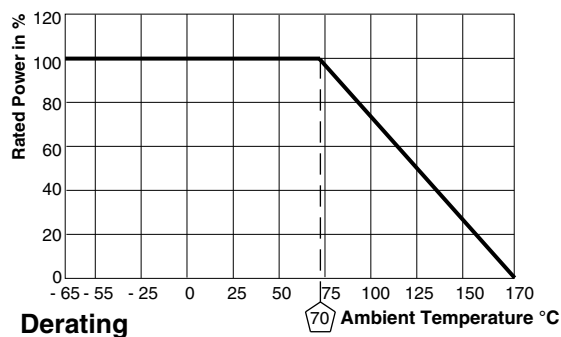
Vishay Dale

DIMENSIONS in inches (millimeters)



MODEL	DIMENSIONS						
	RESISTANCE RANGE Ω	L	W	H	T	A	B
WSK2512	0.001 to 0.0049	0.250 ± 0.010 (6.35 ± 0.254)	0.125 ± 0.010 (3.18 ± 0.254)	0.025 ± 0.010 (0.635 ± 0.254)	0.087 ± 0.010 (2.21 ± 0.254)	0.030 ± 0.010 (0.762 ± 0.254)	0.020 ± 0.010 (0.508 ± 0.254)
	0.005 to 0.025				0.047 ± 0.010 (1.19 ± 0.254)		

MODEL	SOLDER PAD DIMENSIONS					
	a	b	c	d	e	l
WSK2512	0.125 (3.18)	0.130 (3.30)	0.030 (0.76)	0.020 (0.51)	0.055 (1.40)	0.065 (1.65)



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal shock	- 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme	± (0.5 % + 0.0005 Ω) ΔR
Short time overload	5 x rated power for 5 s	± (0.5 % + 0.0005 Ω) ΔR
Low temperature operation	- 65 °C for 24 h	± (0.5 % + 0.0005 Ω) ΔR
High temperature exposure	1000 h at + 170 °C	± (1.0 % + 0.0005 Ω) ΔR
Bias humidity	+ 85 °C, 85 % RH, 10 % bias, 1000 h	± (0.5 % + 0.0005 Ω) ΔR
Mechanical shock	100 g's for 6 ms, 5 pulses	± (0.5 % + 0.0005 Ω) ΔR
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	± (0.5 % + 0.0005 Ω) ΔR
Load life	1000 h at rated power, + 70 °C, 1.5 h "ON", 0.5 h "OFF"	± (1.0 % + 0.0005 Ω) ΔR
Resistance to solder heat	+ 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± (0.5 % + 0.0005 Ω) ΔR
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7a and 7b not required	± (0.5 % + 0.0005 Ω) ΔR

PACKAGING				
MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSK2512	12 mm/embossed plastic	178 mm/7"	2000	R86

Note

- Embossed carrier tape per EIA-481-1A.

Disclaimer

All product specifications and data are subject to change without notice.

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