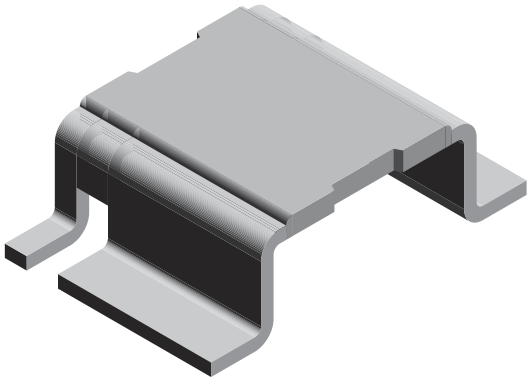
Power Metal Strip® Resistors, Low Value, High Power, Surface Mount, 4-Terminal



FEATURES

- 4-Terminal design allows for 1 % tolerance down to 0.0003 Ω
- High power to foot print size ratio
- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifiers and shunts
- Proprietary processing technique produces extremely low resistance values, down to 0.0005 Ω
- All welded construction
- 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
- Low thermal EMF (< 3 µV/°C)
- AEC-Q200 qualified available (1)
- Compliant to RoHS Directive 2002/95/EC

AUTOMOTIVE GRADE Available

Pb-free

RoHS COMPLIANT

GREEN (5-2008)**

Notes

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

(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 (2) Ω	WEIGHT (typical) g/1000 pieces
WSL4026	4026	3.0	1.0	0.3m to 5m	0.3m, 0.5m, 1m, 2m, 3m, 4m, 5m	420

Notes

- Power rating depends on the max. temperature at the solder point, component placement density and the substrate material.
- Part marking: Model, value, tolerance, date code.

(2) Other values may be available, contact factory.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	± 75 over temperature of + 20 °C to + 60 °C
Operating temperature range	°C	- 65 to + 170
Maximum working voltage	V	$(P \times R)^{1/2}$

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: WSL4026L5000FEA (WSL4026, 0.0005 Ω, ± 1 %)

W	S	L	4	0	2	6	L	5	0	0	0	F	E	A		

GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING CODE	SPECIAL
WSL4026	**L** = mΩ **L3000** = 0.0003 Ω **L5000** = 0.0005 Ω **1L000** = 0.0010 Ω **2L000** = 0.0020 Ω **3L000** = 0.0030 Ω **4L000** = 0.0040 Ω **5L000** = 0.0050 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

For technical questions, contact: ww2bresistors@vishay.com

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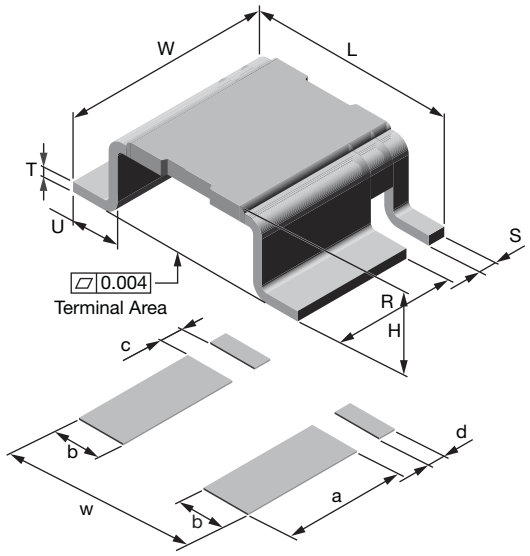
DIMENSIONS

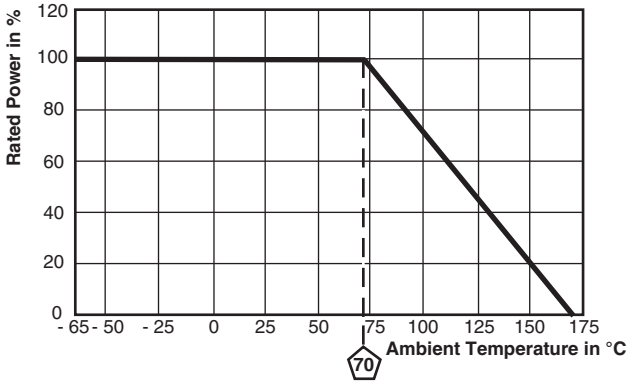
MODEL	DIMENSIONS in inches (millimeters)						
	L	W	H	R	S	T	U
WSL4026	0.400 ± 0.008 (10.1 ± 0.2)	0.260 + 0.012/- 0.008 (6.6 + 0.3/- 0.2)	0.117 ± 0.008 (3.0 ± 0.2)	0.193 ± 0.004 (4.9 ± 0.1)	0.028 ± 0.004 (0.7 ± 0.1)	0.016 ± 0.002 (0.4 ± 0.05)	0.078 ± 0.004 (2.0 ± 0.1)



MODEL	SOLDER PAD DIMENSIONS in inches (millimeters)				
	a	b	c	d	w
WSL4026	0.220 (5.6)	0.096 (2.44)	0.035 (0.89)	0.035 (0.89)	0.420 (10.6)

MODEL	RESISTANCE VALUE (mΩ)	ELEMENT MATERIAL
WSL4026	0.3	Mn-Cu
	0.5	Mn-Cu
	1.0	Mn-Cu
	2.0	Ni-Cr
	3.0	Ni-Cr
	4.0	Ni-Cr
	5.0	Ni-Cr

DERATING



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) Δ*R*
Short time overload	0.3 mΩ, 0.5 mΩ, 2 mΩ and 3 mΩ - 5 x rated power for 5 s 5 mΩ - 3 x rated power for 5 s	± (0.5 % + 0.0005 Ω) Δ*R*
Low temperature operation	- 65 °C for 45 min	± (0.5 % + 0.0005 Ω) Δ*R*
High temperature exposure	1000 h at + 170 °C	± (1.0 % + 0.0005 Ω) Δ*R*
Bias humidity	+ 85 °C, 85 % RH, 10 % bias, 1000 h	± (0.5 % + 0.0005 Ω) Δ*R*
Mechanical shock	100 *g*'s for 6 ms, 5 pulses	± (0.5 % + 0.0005 Ω) Δ*R*
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	± (0.5 % + 0.0005 Ω) Δ*R*
Load life	1000 h at + 70 °C, 1.5 h "ON", 0.5 h "OFF"	± (1.0 % + 0.0005 Ω) Δ*R*
Resistance to solder heat	+ 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± (0.5 % + 0.0005 Ω) Δ*R*
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7b not required	± (0.5 % + 0.0005 Ω) Δ*R*

PACKAGING

MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSL4026	16 mm/embossed plastic	330 mm/13"	1500	EA

Note
- Embossed Carrier Tape per EIA-481.

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