



# POWER METAL STRIP® RESISTOR

WSLP1206



## Very High-Power (1-W) Surface-Mount Power Metal Strip® Resistor

### KEY BENEFITS

- 1-W power capability in very small 1206 package
- Saves space by enabling use of a 1206 size package to replace 1-W 1508 (35 % space savings), 2010 (61 % space savings) and 2512 (75 % space savings) size parts
- Very low resistance values of 1 m $\Omega$  to 50 m $\Omega$
- Low TCR resistance element (< 20 ppm/ $^{\circ}$  C) results in accurate current-sensing, allowing the use of lower cost ICs
- Lead (Pb)-free construction is RoHS-compliant

### APPLICATIONS

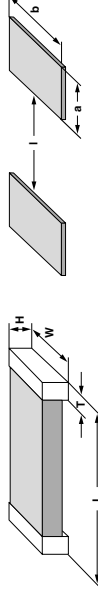
- Computer
- Automotive

Datasheet is available on our web site at [www.vishay.com](http://www.vishay.com) for WSLP1206 - <http://www.vishay.com/doc?30122>

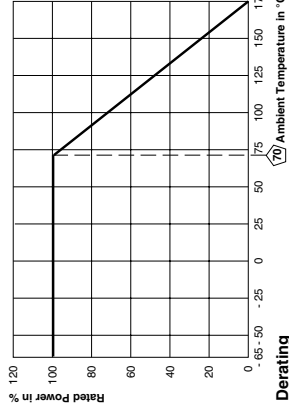
# Power Metal Strip® Resistors, Very High Power (1 W) Low Value (down to 0.001 Ω), Surface Mount


**FEATURES**

- Very high power to foot print size ratio (1 W in 1206 package)
- Ideal for all types of current sensing and pulse applications including switching and linear power supplies, instruments, power amplifiers and shunts
- Proprietary processing technique produces extremely low resistance values (down to 0.001 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
- Excellent frequency response to 50 MHz
- Low thermal EMF (< 3 μV/°C)


**DIMENSIONS**


MODEL	RESISTANCE RANGE (Ω)	DIMENSIONS in inches [millimeters]			
		L	W	H	T
WSLP1206	0.001 to 0.0019	0.126 ± 0.010 [3.2 ± 0.254]	0.063 ± 0.010 [1.6 ± 0.254]	0.025 ± 0.010 [0.635 ± 0.254]	0.041 ± 0.010 [1.04 ± 0.254]
	0.002 to 0.0059	0.126 ± 0.010 [3.2 ± 0.254]	0.063 ± 0.010 [1.6 ± 0.254]	0.025 ± 0.010 [0.635 ± 0.254]	0.025 ± 0.010 [0.635 ± 0.254]
	0.006 to 0.050	0.126 ± 0.010 [3.2 ± 0.254]	0.063 ± 0.010 [1.6 ± 0.254]	0.025 ± 0.010 [0.635 ± 0.254]	0.020 ± 0.010 [0.508 ± 0.254]
MODEL	RESISTANCE RANGE (Ω)	SOLDER PAD DIMENSIONS in inches [millimeters]			
WSLP1206	0.001 to 0.05	a	b	l	
		0.062 [1.57]	0.070 [1.78]	0.030 [0.76]	



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
Low Temperature Operation	-65 °C for 45 min	± (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 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, 7b not required	± (0.5 % + 0.0005 Ω) ΔR

Revision 26-Mar-09

**PACKAGING**

MODEL	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSLP1206	8 mm/Embossed Plastic	178 mm/7"	4000	EA

 Note  
 • Embossed Carrier Tape per EIA-481-2

STANDARD ELECTRICAL SPECIFICATIONS			WEIGHT (typical) g/1000 pieces
GLOBAL MODEL	POWER RATING P <sub>70°C</sub> W	RESISTANCE RANGE Ω	
WSLP1206	1.0	± 0.5 % 0.01 to 0.05	16.2

TECHNICAL SPECIFICATIONS	
PARAMETER	UNIT
Temperature Coefficient	ppm/°C
Operating Temperature Range	°C
Maximum Working Voltage	V

WSP1206  
 ± 2.75 for 1 mΩ to 2.9 mΩ, ± 150 for 3 mΩ to 4.9 mΩ  
 ± 110 for 5 mΩ to 6.9 mΩ, ± 75 for 7 mΩ to 50 mΩ  
 -65 to +170 (P × R)<sup>1/2</sup>

 Note  
 • Part Marking: Value

GLOBAL PART NUMBER INFORMATION	
NEW GLOBAL PART NUMBERING: WSLP1206R0100FEA	
W	S
L	P
1	2
0	0
6	R
0	1
0	0
0	F
E	A

GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING CODE	SPECIAL
WSLP1206	L = mΩ* R = Decimal 4M = 0.004 Ω R0100 = 0.01 Ω * use "L" for resistance values < 0.01 Ω	D = ± 0.5 % F = ± 1.0 %	EA = Lead (Pb)-free, tape/reel EK = Lead (Pb)-free, bulk	Reserved for future specials

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