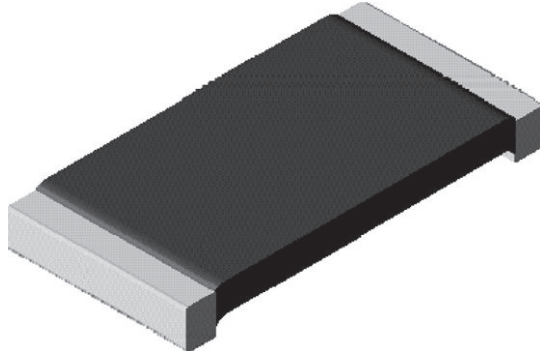


## Power Metal Strip® Resistors, Very High Power (to 1 W), Low Value (down to 0.001 Ω), Surface Mount



### FEATURES

- Very high power to foot print size ratio (1 W in 1206, 0.5 W in 0805 and 0.4 W in 0603 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)
- AEC-Q200 qualified available <sup>(1)</sup>
- Compliant to RoHS Directive 2002/95/EC

 AUTOMOTIVE  
GRADE  
Available

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

### Note

<sup>(1)</sup> Flame retardance test may not be applicable to some resistor technologies

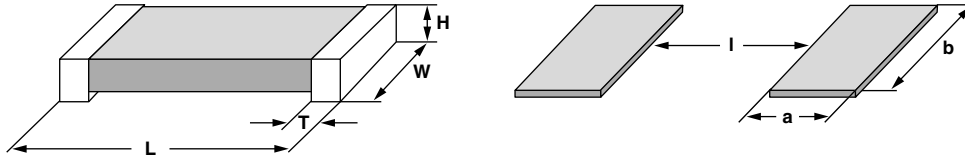
### Note

 \*\* Please see document "Vishay Material Category Policy": [www.vishay.com/doc?99902](http://www.vishay.com/doc?99902)

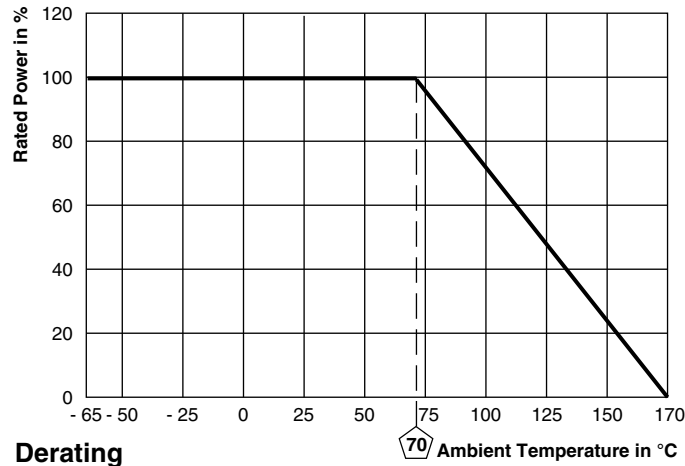
STANDARD ELECTRICAL SPECIFICATIONS					
GLOBAL MODEL	SIZE	POWER RATING $P_{70^{\circ}\text{C}}$ W	RESISTANCE VALUE RANGE Ω		WEIGHT (typical) g/1000 pieces
			Tol. ± 0.5 %	Tol. ± 1.0 %	
WSLP0603	0603	0.4	0.015 to 0.1	0.01 to 0.1	1.9
WSLP0805	0805	0.5	0.01 to 0.05	0.01 to 0.05	4.8
WSLP1206	1206	1.0	0.005 to 0.05	0.001 to 0.05	16.2

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	± 275 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 0.1 Ω
Operating temperature range	°C	- 65 to + 170
Maximum workin voltage	V	$(P \times R)^{1/2}$

GLOBAL PART NUMBER INFORMATION																	
Global Part Numbering example: WSLP1206R0100FEA																	
W	S	L	P	1	2	0	6	R	0	1	0	0	F	E	A		
GLOBAL MODEL			RESISTANCE VALUE			TOLERANCE CODE			PACKAGING CODE			SPECIAL					
WSLP0603 WSLP0805 WSLP1206			L = mΩ* R = Decimal 4L000 = 0.004 Ω R0100 = 0.01 Ω			D = ± 0.5 % F = ± 1.0 %			EA = Lead (Pb)-free, tape/reel EK = Lead (Pb)-free, bulk			Reserved for future specials					
* Use "L" for resistance values < 0.01 Ω																	

**DIMENSIONS**


MODEL	RESISTANCE RANGE (Ω)	DIMENSIONS in inches (millimeters)				SOLDER PAD DIMENSIONS in inches (millimeters)		
		L	W	H	T	a	b	l
WSLP0603	0.01 to 0.1	0.060 ± 0.010 (1.52 ± 0.254)	0.030 ± 0.010 (0.76 ± 0.254)	0.013 ± 0.010 (0.330 ± 0.254)	0.015 ± 0.010 (0.381 ± 0.254)	0.040 (1.02)	0.040 (1.02)	0.020 (0.50)
WSLP0805	0.01 to 0.05	0.080 ± 0.010 (2.03 ± 0.254)	0.050 ± 0.010 (1.27 ± 0.254)	0.013 ± 0.010 (0.330 ± 0.254)	0.015 ± 0.010 (0.381 ± 0.254)	0.040 (1.02)	0.050 (1.27)	0.020 (0.50)
WSLP1206	0.001 to 0.0019	0.126 ± 0.010 (3.20 ± 0.254)	0.063 ± 0.010 (1.60 ± 0.254)	0.025 ± 0.010 (0.635 ± 0.254)	0.041 ± 0.010 (1.04 ± 0.254)	0.062 (1.57)	0.070 (1.78)	0.030 (0.76)
	0.002 to 0.0059				0.025 ± 0.010 (0.635 ± 0.254)			
	0.006 to 0.050				0.020 ± 0.010 (0.508 ± 0.254)			

**DERATING**

**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) 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

PACKAGING				
MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSLP0603	8 mm/punched paper	178 mm/7"	5000	EA
WSLP0805	8 mm/punched paper	178 mm/7"	5000	EA
WSLP1206	8 mm/embossed plastic	178 mm/7"	4000	EA

**Note**

- Embossed Carrier Tape per EIA-481.



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