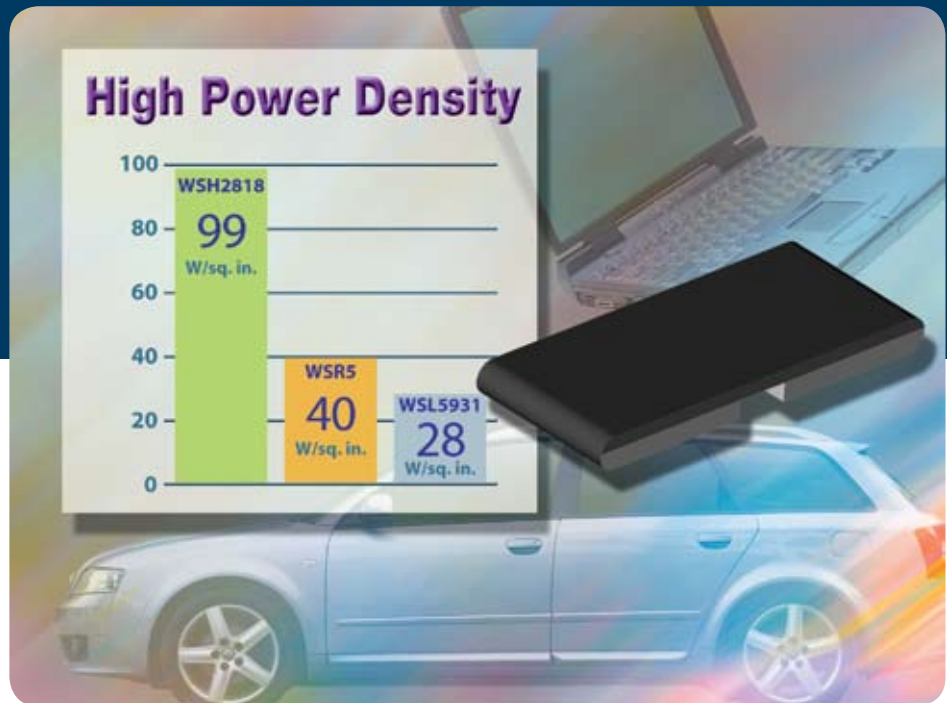




# POWER METAL STRIP<sup>®</sup> RESISTOR

WSH2818



## 5-Watt Surface-Mount Power Metal Strip<sup>®</sup> Resistor

### KEY BENEFITS

- Power rating of 5 Watt
- Resistance values ranging from 1 m $\Omega$  to 100 m $\Omega$
- Tight tolerances down to  $\pm 0.5$  %
- Very low inductance of  $< 5$  nH
- RoHS compliant and lead (Pb)-free
- Dimensions of 0.280 inches by 0.180 inches by 0.032 inches [7.1 mm by 4.6 mm by 0.813 mm]
- Operating temperature range of - 65  $^{\circ}\text{C}$  to + 170  $^{\circ}\text{C}$
- Includes a low TCR ( $< 20$  ppm/ $^{\circ}\text{C}$ ) solid metal nickel-chrome or manganese-copper alloy resistive element

### APPLICATIONS

- Computer
- Automotive
- Telecommunications
- Consumer
- Industrial

Datasheet is available on our web site at [www.vishay.com](http://www.vishay.com) for WSH2818 - <http://www.vishay.com/doc?30120>

## Power Metal Strip® Resistors, High Power (5 watt) Low Value (down to 0.001 Ω), Surface Mount

### FEATURES

- Improved thermal management incorporated into design
- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifiers
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Solid metal Nickel-chrome or Manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Lead (Pb)-free construction
- Very low inductance (< 5 nH)
- Excellent frequency response to 50 MHz
- Low thermal EMF (< 3 μV/°C)



RoHS COMPLIANT

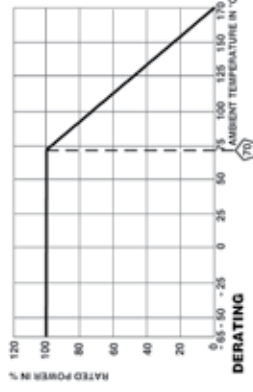


### DIMENSIONS



MODEL	DIMENSIONS in inches [millimeters]			
	RESISTANCE RANGE Ω	L	W	H T
WSH2818	0.006 - 0.1	0.280 ± 0.010 [0.180 ± 0.010] 0.002 ± 0.010 [0.125 ± 0.010]	0.280 ± 0.010 [0.180 ± 0.010] 0.002 ± 0.010 [0.125 ± 0.010]	0.006 ± 0.001 [0.152 ± 0.025]
	0.001 - 0.005	0.280 ± 0.010 [0.180 ± 0.010] 0.002 ± 0.010 [0.125 ± 0.010]	0.280 ± 0.010 [0.180 ± 0.010] 0.002 ± 0.010 [0.125 ± 0.010]	0.001 ± 0.001 [0.152 ± 0.025]

MODEL	SOLDER PAD DIMENSIONS in inches [millimeters]		
	a	b	C
WSH2818	0.138 [3.5]	0.200 [5.1]	0.024 [0.61]



STANDARD ELECTRICAL SPECIFICATIONS			
GLOBAL MODEL	POWER RATING P <sub>70</sub> °C W	TOLERANCE %	RESISTANCE RANGE Ω
WSH2818	5*	1.0	0.001 - 0.1

\* The WSH2818 is rated at 5 watts with maximum surface temperature of 200 °C

TECHNICAL SPECIFICATIONS	
PARAMETER	UNIT
Temperature Coefficient	ppm/°C
Inductance	μH
Operating Temperature Range	°C
Maximum Continuous Current	A
Weight/1,000 pieces	g

GLOBAL PART NUMBER INFORMATION	
Global Part Numbering: WSH2818R1000FEA	
W S H 2 8 1 8 R 1 0 0 0 F E A	
GLOBAL MODEL WSH2818	
RESISTANCE VALUE L = Millihm* R = Decimal 4L000 = 0.004 Ω R0100 = 0.01 Ω * use 'L' for resistance values < 0.01 Ω	
TOLERANCE VALUE F = ± 1.0 % J = ± 5.0 %	
PACKING CODE EA = Lead (Pb)-free, Tape Reel EK = Lead (Pb)-free, Bulk	
SPECIAL (Dash number up to 2 digits) From 1 - 99 as applicable	

TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal Shock	-55 °C to +150 °C, 1000 cycles, 15 minutes at each extreme	± 0.5 % ΔR
Short Time Overload	4 x rated power for 5 seconds	± 1.0 % ΔR
Low Temperature Operation	-65 °C for 45 minutes	± 0.5 % ΔR
High Temperature Exposure	1000 hours at +170 °C	± 1.0 % ΔR
Bias Humidity	+85 °C, 85 % RH, 10 % Bias, 1000 hours	± 0.5 % ΔR
Mechanical Shock	100 g for 6 milliseconds, 5 pulses	± 0.5 % ΔR
Vibration	Frequency varied 10 to 2000 Hz in one minute, 3 directions, 12 hours	± 1.0 % ΔR
Load Life	1000 hours at +70 °C, 1.5 hours "ON", 0.5 hours "OFF"	± 1.0 % ΔR
Resistance to Solder Heat	+260 °C Solder, 10 - 12 second dwell, 25 mm/second emergence	± 0.5 % ΔR
Moisture Resistance	MIL-STD-202, Method 106, 0 % power, 7b not required	± 0.5 % ΔR

PACKING			
MODEL	TAPE WIDTH	DIAMETER	PIECES/REEL
WSH2818	16 mm Embossed Plastic	330 mm 13"	3600
Embossed carrier tape per EIA-481-2			

Revision 20-Apr-06

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For technical questions, contact [ww2bresistors@vishay.com](mailto:ww2bresistors@vishay.com)