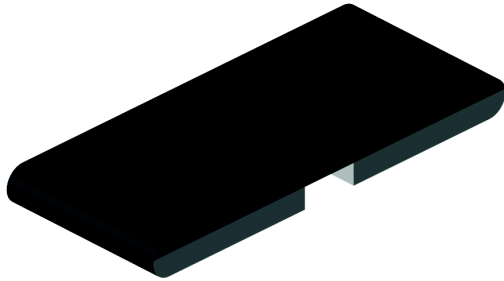


Power Metal Strip® Resistors, High Power (5 W) Low Value (down to 0.001 Ω), Surface Mount



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 amplifier
- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Very low inductance (< 5 nH)
- Solid metal nickel-chrome or manganese-copper alloy resistive element with low TCR (< 20 ppm/ $^{\circ}\text{C}$)
- Excellent frequency response to 50 MHz
- Low thermal EMF (< 3 $\mu\text{V}/^{\circ}\text{C}$)
- AEC-Q200 qualified ⁽¹⁾
- Compliant to RoHS Directive 2002/95/EC

AUTOMOTIVE GRADE


RoHS
COMPLIANT
GREEN
(5-2009)**

Note

⁽¹⁾ Flame retardance test may not be applicable to some resistor technologies.

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	POWER RATING $P_{70^{\circ}\text{C}}$ W	TOLERANCE $\pm \%$	RESISTANCE VALUE RANGE Ω	WEIGHT (typical) g/1000 pieces
WSH2818	2818	5 ⁽²⁾	1.0	0.001 to 0.1	126

Note

⁽²⁾ The WSH2818 is rated at 5 W with maximum surface temperature of 200 $^{\circ}\text{C}$.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/ $^{\circ}\text{C}$	± 200 for 1 m Ω to 5.99 m Ω ± 75 for 6 m Ω to 100 m Ω
Inductance	nH	< 5
Operating temperature range	$^{\circ}\text{C}$	- 65 to + 170
Maximum continuous current	A	$(P/R)^{1/2}$

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: WSH2818R1000FEA

W S H 2 8 1 8 R 1 0 0 0 F E A

GLOBAL MODEL
WSH2818

RESISTANCE VALUE
L = m Ω *
R = Decimal
4L000 = 0.004 Ω
R0100 = 0.01 Ω

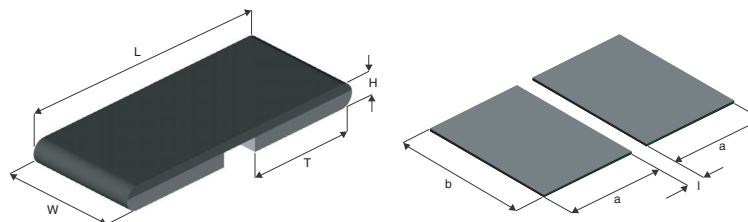
* Use "L" for resistance values < 0.01 Ω

TOLERANCE CODE
F = ± 1.0 %
J = ± 5.0 %

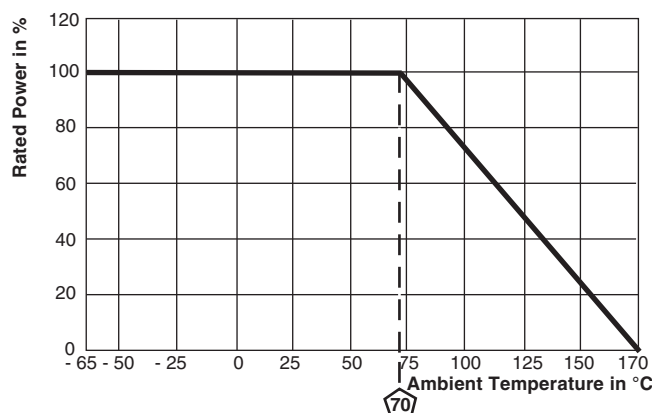
PACKAGING CODE
EA = Lead (Pb)-free, tape/reel
EK = Lead (Pb)-free, bulk

SPECIAL
(Dash number)
(up to 2 digits)
From **1 to 99**
as applicable

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

DIMENSIONS in inches (millimeters)


MODEL	RESISTANCE RANGE Ω	DIMENSIONS				SOLDER PAD DIMENSIONS		
		L	W	H	T	a	b	l
WSH2818	0.006 to 0.1	0.280 ± 0.010 (7.1 ± 0.25)	0.180 ± 0.010 (4.6 ± 0.25)	0.032 ± 0.010 (0.813 ± 0.25)	0.125 ± 0.010 (3.18 ± 0.25)	0.138 (3.5)	0.200 (5.1)	0.024 (0.61)
	0.001 to 0.0059			0.045 ± 0.010 (1.143 ± 0.25)				

DERATING


PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal shock	- 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme	± 0.5 % ΔR
Short time overload	4 x rated power for 5 s	± 1.0 % ΔR
Low temperature operation	- 65 °C for 45 min	± 0.5 % ΔR
High temperature exposure	1000 h at + 170 °C	± 1.0 % ΔR
Bias humidity	+ 85 °C, 85 % RH, 10 % bias, 1000 h	± 0.5 % ΔR
Mechanical shock	100 g's for 6 ms, 5 pulses	± 0.5 % ΔR
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	± 0.5 % ΔR
Load life	1000 h at 70 °C, 1.5 h "ON", 0.5 h "OFF"	± 1.0 % ΔR
Resistance to solder heat	+ 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± 0.5 % ΔR
Moisture resistance	MIL-STD-202, method 106, 0 % power, 7b not required	± 0.5 % ΔR

PACKAGING				
MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSH2818	16 mm/embossed plastic	330 mm/13"	3500	EA

Note

- Embossed Carrier Tape per EIA-481.



Disclaimer

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