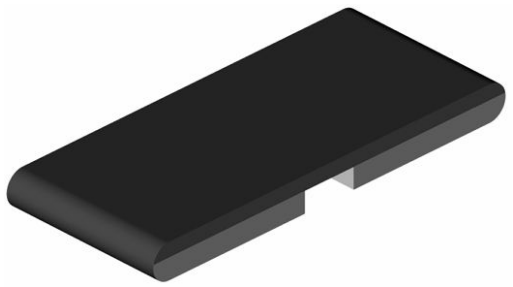
Power Metal Strip® Resistors, High Power (5 W) Low Value (down to 0.001 Ω), Surface Mount



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/°C)
- Excellent frequency response to 50 MHz
- Low thermal EMF (< 3 µV/°C)
- AEC-Q200 qualified (1)
- Compliant to RoHS Directive 2002/95/EC

Note

(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	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 °C.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	± 200 for 1 mΩ to 5.99 mΩ ± 75 for 6 mΩ to 100 mΩ
Inductance	nH	< 5
Operating temperature range	°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	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING CODE	SPECIAL
WSH2818	**L** = mΩ* **R** = Decimal **4L000** = 0.004 Ω **R0100** = 0.01 Ω * Use "**L**" for resistance values < 0.01 Ω	**F** = ± 1.0 % **J** = ± 5.0 %	**EA** = Lead (Pb)-free, tape/reel **EK** = Lead (Pb)-free, bulk	(Dash number) (up to 2 digits) From **1 to 99** as applicable

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

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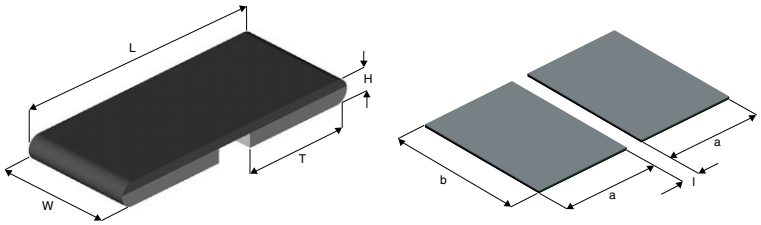
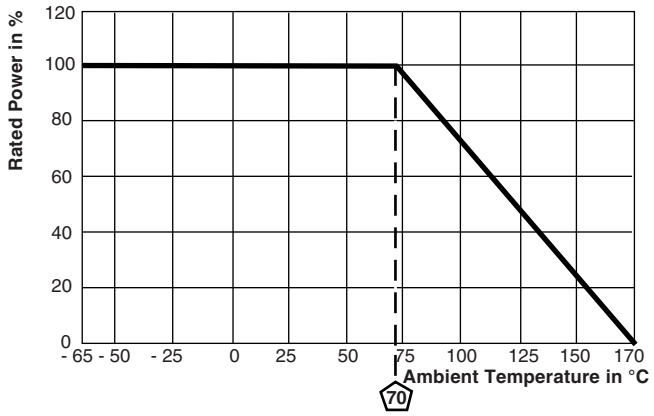
DIMENSIONS in inches (millimeters)



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

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

All product specifications and data are subject to change without notice.

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