

## Power Metal Strip® Resistors, High Power (7 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 <sup>(1)</sup>
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### Note

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

### STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	POWER RATING $P_{70\text{ }^\circ\text{C}}$ W	TOLERANCE ± %	RESISTANCE VALUE RANGE Ω	WEIGHT (typical) g/1000 pieces
WSHM2818	2818	7 <sup>(2)</sup>	1.0	0.001 to 0.1	167.8

### Note

<sup>(2)</sup> The WSHM2818 is rated at 7 W with maximum surface temperature of 180 °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: WSHM2818R1000FEA

W	S	H	M	2	8	1	8	R	1	0	0	0	F	E	A		
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GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING CODE	SPECIAL
WSHM2818	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

**DIMENSIONS** in inches (millimeters)


MODEL	RESISTANCE RANGE $\Omega$	DIMENSIONS				SOLDER PAD DIMENSIONS		
		L	W	H	T	a	b	l
WSHM2818	0.001 to 0.1	0.280 ± 0.010 (7.1 ± 0.25)	0.180 ± 0.010 (4.6 ± 0.25)	0.059 ± 0.010 (1.50 ± 0.25)	0.125 ± 0.010 (3.18 ± 0.25)	0.138 (3.5)	0.200 (5.1)	0.024 (0.61)

**DERATING**


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

PACKAGING				
MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSHM2818	16 mm/embossed plastic	330 mm/13"	3500	EA

**Note**

- Embossed Carrier Tape per EIA-481.



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- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
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#### Как с нами связаться

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