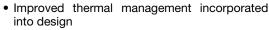


Vishay Dale

# Power Metal Strip<sup>®</sup> Resistors, High Power (7 W) Low Value (down to 0.001 $\Omega$ ), Surface Mount



#### **FEATURES**





 Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifier



HALOGEN

FREE

GREEN (5-2008)

- Proprietary processing technique produces extremely low resistance values
- All welded construction
- Very low inductance (< 5 nH)
- very low inductance (< 5 mm)
- Solid metal nickel-chrome or manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)</li>
- 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 <a href="https://www.vishav.com/doc?99912"><u>www.vishav.com/doc?99912</u></a>

#### Note

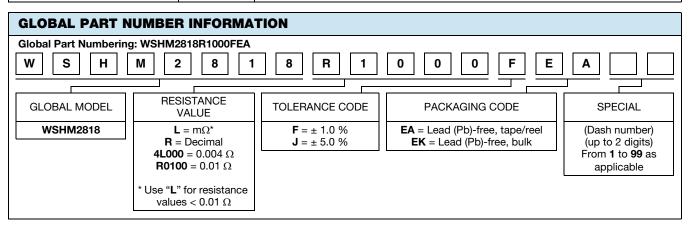
(1) Flame retardance test may not be applicable to some resistor technologies.

STANDARD ELECTRICAL SPECIFICATIONS					
GLOBAL MODEL	SIZE	POWER RATING  P <sub>70 °C</sub> W	TOLERANCE ± %	RESISTANCE VALUE RANGE $\Omega$	WEIGHT (typical) g/1000 pieces
WSHM2818	2818	7 (2)	1.0	0.001 to 0.1	167.8

#### Note

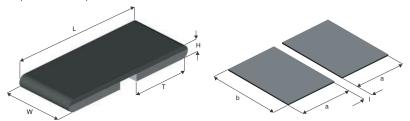
<sup>(2)</sup> The WSHM2818 is rated at 7 W with maximum surface temperature of 180 °C.

TECHNICAL SPECIFICATIONS				
PARAMETER	UNIT	RESISTOR CHARACTERISTICS		
Temperature coefficient	ppm/°C	$\pm$ 200 for 1 m $\Omega$ to 5.99 m $\Omega$ $\pm$ 75 for 6 m $\Omega$ to 100 m $\Omega$		
Inductance	nH	< 5		
Operating temperature range	°C	-65 to +170		
Maximum continuous current	Α	(P/R) <sup>1/2</sup>		



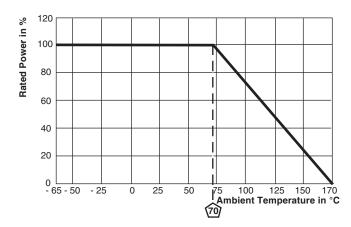


### **DIMENSIONS** in inches (millimeters)



MODEL	RESISTANCE	DIMENSIONS				SOLDER PAD DIMENSIONS		
MODEL F	RANGE $\Omega$	L	W	Н	Т	а	b	I
WSHM2818	0.001 to 0.1	0.280 ± 0.010 (7.1 ± 0.25)	0.180 ± 0.010 (4.6 ± 0.25)	$0.059 \pm 0.010$ $(1.50 \pm 0.25)$	$0.125 \pm 0.010$ $(3.18 \pm 0.25)$	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 % 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	
WSHM2818	16 mm/embossed plastic	330 mm/13"	3500	EA	

#### Note

• Embossed Carrier Tape per EIA-481.



## **Legal Disclaimer Notice**

Vishay

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Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

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