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Vishay Dale

AUTOMOTIVE

HALOGEN FREE

GREEN

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



Product Termination Notice: PCN-DR-028-2015-Rev-0

For documentation go to: www.vishay.com/quality/pcn-search/. Enter search for resistors, Vishay Dale, and product termination.

Technical Note: WSHM / WSH Side by Side Comparison for a Drop-In Replacement Part: www.vishay.com/doc?30305.

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)
- Excellent frequency response to 50 MHz
- Solid metal nickel-chrome or manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Low thermal EMF (< 3 μV/°C)
- AEC-Q200 qualified (1)
- Compliant to RoHS Directive 2002/95/EC

Note

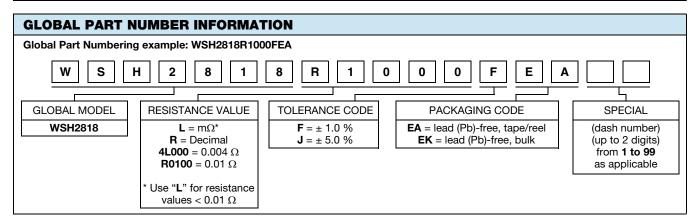
(1) Flame retardance test may not be applicable to some resistor technologies.

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	\pm 200 for 1 m Ω to 5.99 m Ω \pm 75 for 6 m Ω to 100 m Ω		
Inductance	nH	< 5		
Operating temperature range	°C	-65 to +170		
Maximum continuous current	А	(P/R) ^{1/2}		

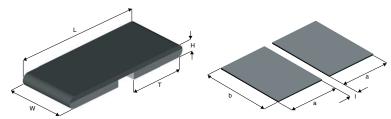




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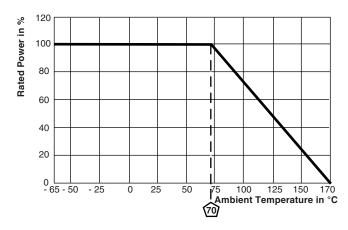
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DIMENSIONS in inches (millimeters)



MODEL	RESISTANCE	DIMENSIONS				SOLDER PAD DIMENSIONS		
MODEL	RANGE Ω	L	W	Н	Т	а	b	I
WSH2818 0.006 to 0.1 0.001 to 0.0059	0.280 ± 0.010	0.180 ± 0.010	0.032 ± 0.010 (0.813 ± 0.25)	0.125 ± 0.010	0.138	0.200	0.024	
	0.001 to 0.0059	(7.1 ± 0.25)	(4.6 ± 0.25)	0.045 ± 0.010 (1.143 ± 0.25)	(3.18 ± 0.25)	(3.5)	(5.1)	(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	4x 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.



Legal Disclaimer Notice

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