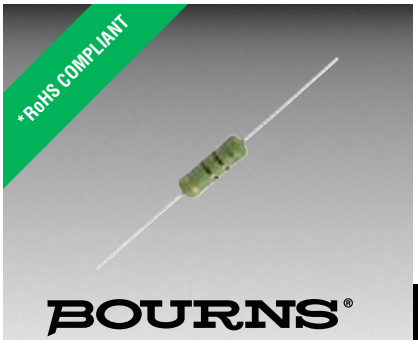

Features

- Low thermal resistant ceramic core
- E24 resistance values
- RoHS compliant*
- Wide power range (1~10 W)
- Coating material meets UL 94V-0 requirements

Applications

- Smart meters
- Renewable energy
- Industrial
- Power supplies/chargers
- Lighting
- Instruments/gauges
- White goods

W Series Wirewound Power Resistor

Electrical Characteristics

Resistance Range ..... See Popular Resistance Values Table
Tolerance ..... 5 %
Operating Temperature ..... -55 °C to +200 °C
Temperature Coefficient ..... ±300 ppm/°C
Maximum Voltage ..... √P*R

Non-inductive version is available upon request.

Popular Resistance Values

Code	R Value
15R0	15 Ω
22R0	22 Ω
33R0	33 Ω
39R0	39 Ω
47R0	47 Ω

Code	R Value
56R0	56 Ω
82R0	82 Ω
1000	100 Ω
1200	120 Ω
1500	150 Ω

Other E24 resistance values available upon request.

Physical Characteristics

Resistor ..... Low thermal resistant ceramic core
Lead Wire ..... Tin-plated copper wire
Coating Material ..... Meets UL 94V-0 requirements

Environmental Characteristics

Test	Conditions	Specification
Short Time Overload	2.5 times rated voltage for 5 seconds.	ΔR/R≤±(2 % ± 0.05 Ω)
Solderability	245 ±3 °C for 2.5 ±0.5 seconds.	Over 95 % coverage
Resistance to Solder Heat	260 ±5 °C for 10 ± 1 seconds.	ΔR/R≤±(1 % + 0.05 Ω)
Dielectric Strength	Test voltage >500 Vrms for >1 minute.	Pass
Insulation Resistance	Test voltage >500 Vrms for 1 minute.	$>10^9$ Ω
Load Life Humidity	40 ±2 °C, 90 to 95 %. 1.5 hours ON, 0.5 hours OFF for 1000 hours at rated power.	ΔR/R≤ ±(5 % + 0.05 Ω)
Load Life	70 ±2 °C. 1.5 hours ON, 0.5 hours OFF for 1000 hours at rated power.	ΔR/R≤±(5 % + 0.05 Ω)

How to Order

W 3 M 22R0 J

Product Series
W = Wirewound

Power Rating
1 = 1 Watt
2 = 2 Watts
3 = 3 Watts
5 = 5 Watts
7 = 7 Watts
9 = 9 Watts
10 = 10 Watts

Pin Style
M = Axial Miniaturized Version

Resistance Code
- R<100 ohms:
  "R" represents decimal point
  (examples: 56R0 = 56 ohms)
- R≥100 ohms:
  First three digits are significant, fourth digit represents number of zeros to follow
  (example: 1500 = 150 ohms)

Resistance Tolerance
J = ±5 %

Packaging Specifications

Model	Style	Qty. per Box (Pcs.)	Min. Order Quantity (Pcs.)
W1M	Ammo Pack	1,000	5,000
W2M			
W3M			
W5M	Ammo Pack	500	2,000
W7M			
W9M	Bulk in Box	25 / 200	2,000
W10M			

WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.
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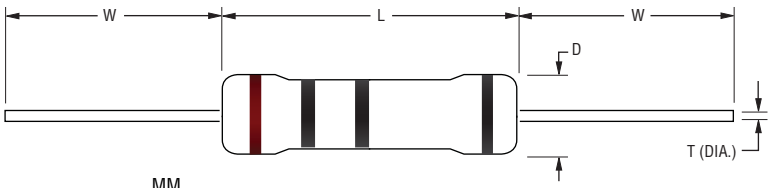
W Series Wirewound Power Resistor

BOURNS®

Product Dimensions



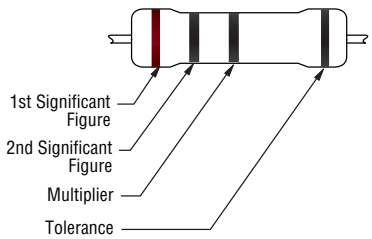
DIMENSIONS: MM / (INCHES)

Model	Dimensions			
	L*	D	W	T
W1M	9.5 ± 1.0 (.374 ± .004)	4.0 ± 1.0 (.157 ± .004)	28.0 ± 3.0 (1.102 ± .118)	0.60 ± 0.05 (.024 ± .002)
W2M	11.5 ± 1.0 (.453 ± .004)	4.5 ± 1.0 (.177 ± .004)	28.0 ± 3.0 (1.102 ± .118)	0.65 ± 0.05 (.026 ± .002)
W3M	15.5 ± 1.0 (.610 ± .004)	5.5 ± 1.0 (.217 ± .004)	28.0 ± 3.0 (1.102 ± .118)	0.70 ± 0.05 (.028 ± .002)
W5M	17.5 ± 1.0 (.689 ± .004)	6.5 ± 1.0 (.256 ± .004)	28.0 ± 3.0 (1.102 ± .118)	0.75 ± 0.05 (.030 ± .002)
W7M	24.5 ± 1.0 (.965 ± .004)	8.5 ± 1.0 (.335 ± .004)	38.0 ± 3.0 (1.496 ± .118)	0.75 ± 0.05 (.030 ± .002)
W9M	39.5 ± 1.0 (1.555 ± .004)	8.5 ± 1.0 (.335 ± .004)	38.0 ± 3.0 (1.496 ± .118)	0.75 ± 0.05 (.030 ± .002)
W10M	52.5 ± 1.0 (2.067 ± .004)	8.5 ± 1.0 (.335 ± .004)	38.0 ± 3.0 (1.496 ± .118)	0.75 ± 0.05 (.030 ± .002)

* Larger body size available upon request.

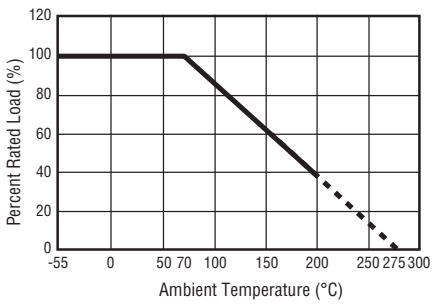
Typical Part Marking

Resistors shall be marked with color coding. Colors shall be in accordance with JIS C 0802.

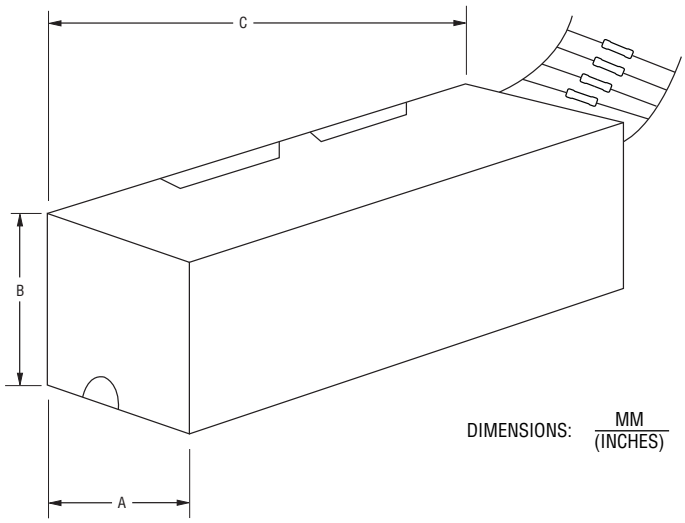


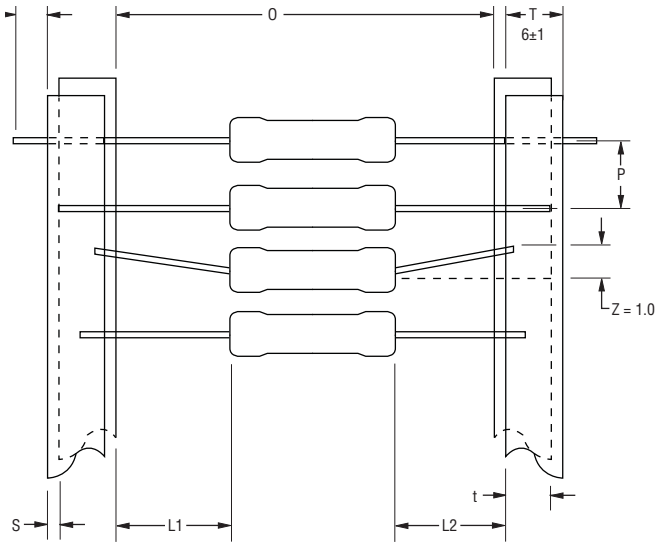
Color	1st Band	2nd Band	Multi-plier	Tol.
Black	0	0	1 Ω	
Brown	1	1	10 Ω	±1 %
Red	2	2	100 Ω	±2 %
Orange	3	3	1K Ω	
Yellow	4	4	10K Ω	
Green	5	5	100K Ω	±0.5 %
Blue	6	6	1M Ω	±0.25 %
Violet	7	7	10M Ω	±0.10 %
Grey	8	8		±0.05 %
White	9	9		
Gold			0.1 Ω	±5 %
Silver			0.01 Ω	±10 %

Power Derating Curve



Packaging Specifications





Model	O	P	A	B	C	Qty./Box
W1M	58 ± 1 (2.283 ± .039)	5 ± 0.3 (.197 ± .012)	75 ± 5 (2.953 ± .197)	70 ± 5 (2.756 ± .197)	255 ± 5 (10.039 ± .197)	1,000 pcs.
W2M	58 ± 1 (2.283 ± .039)	10 ± 0.5 (.394 ± .020)	80 ± 5 (3.150 ± .197)	82 ± 5 (3.228 ± .197)	255 ± 5 (10.039 ± .197)	1,000 pcs.
W3M	65 ± 5 (2.559 ± .197)	10 ± 0.5 (.394 ± .020)	90 ± 5 (3.543 ± .197)	119 ± 5 (4.685 ± .197)	255 ± 5 (10.039 ± .197)	1,000 pcs.
W5M	65 ± 5 (2.559 ± .197)	10 ± 0.5 (.394 ± .020)	90 ± 5 (3.543 ± .197)	88 ± 5 (3.465 ± .197)	255 ± 5 (10.039 ± .197)	500 pcs.
W7M	90 ± 5 (3.543 ± .197)	10 ± 0.5 (.394 ± .020)	115 ± 5 (4.528 ± .197)	124 ± 5 (4.882 ± .197)	500 ± 5 (19.685 ± .197)	500 pcs.

For W9M and W10M packaging specifications, please contact factory.

BOURNS®

Asia-Pacific: Tel: +886-2 2562-4117 • Email: asiacus@bourns.com
EMEA: Tel: +36 88 885 877 • Email: eurocus@bourns.com
The Americas: Tel: +1-951 781-5500 • Email: americus@bourns.com
www.bourns.com

09/19

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