

Features

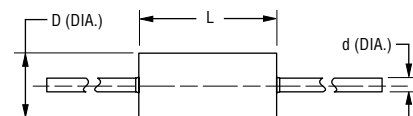
- Formerly a Riedon™ product
- Resistances to 5 MΩ
- Resistance tolerances to ±0.005 %
- Non-inductive Multi-Π cores
- TCR to ±2 PPM/°C
- 100 % acceptance tested / traceable to NIST

- Long term stability / 100 ppm/year
- Matched resistance sets to ±0.001 % and ±0.5 ppm/°C
- Flame & moisture resistant protective encapsulation
- RoHS compliant*

SM/1xx Series - Riedon™ Precision Axial Wirewound Resistors by Bourns

Specifications

Bourns Model Number	Commercial Power (W)	Resistance Range (Ω) ¹	Dimensions			Max. Working Voltage
			Diameter "D"	Length "L"	Lead Diameter ² "d"	
SM2	0.06	1 - 75 k	$\frac{2.5 \pm 0.13}{(.100 \pm .005)}$	$\frac{5.3 \pm 0.64}{(.210 \pm .025)}$	$\frac{0.5 \pm 0.05}{(.020 \pm .002)}$	75
SM3	0.08	1 - 150 k	$\frac{3.2 \pm 0.13}{(.125 \pm .005)}$	$\frac{6.6 \pm 0.64}{(.260 \pm .025)}$	$\frac{0.5 \pm 0.05}{(.020 \pm .002)}$ $\frac{0.6 \pm 0.05}{(.025 \pm .002)}$	100
SM4	0.10	1 - 250 k	$\frac{3.2 \pm 0.13}{(.125 \pm .005)}$	$\frac{9.5 \pm 0.64}{(.375 \pm .025)}$	$\frac{0.5 \pm 0.05}{(.020 \pm .002)}$	100
SM13	0.10	1 - 250 k	$\frac{4.0 \pm 0.13}{(.156 \pm .005)}$	$\frac{7.9 \pm 0.64}{(.312 \pm .025)}$	$\frac{0.5 \pm 0.05}{(.020 \pm .002)}$	100
SM5	0.12	1 - 400 k	$\frac{4.7 \pm 0.13}{(.187 \pm .005)}$	$\frac{6.4 \pm 0.64}{(.250 \pm .025)}$	$\frac{0.6 \pm 0.05}{(.025 \pm .002)}$	150
SM6	0.15	1 - 500 k	$\frac{4.7 \pm 0.13}{(.187 \pm .005)}$	$\frac{7.5 \pm 0.64}{(.295 \pm .025)}$	$\frac{0.6 \pm 0.05}{(.025 \pm .002)}$	150
139A	0.15	1 - 500 k	$\frac{6.4 \pm 0.13}{(.250 \pm .005)}$	$\frac{6.4 \pm 0.64}{(.250 \pm .025)}$	$\frac{0.6 \pm 0.05}{(.025 \pm .002)}$	100
SM15	0.175	1 - 750 k	$\frac{4.7 \pm 0.13}{(.187 \pm .005)}$	$\frac{9.5 \pm 0.64}{(.375 \pm .025)}$	$\frac{0.6 \pm 0.05}{(.025 \pm .002)}$	200
SM12	0.20	1 - 750 k	$\frac{4.7 \pm 0.13}{(.187 \pm .005)}$	$\frac{11.4 \pm 0.64}{(.450 \pm .025)}$	$\frac{0.6 \pm 0.05}{(.025 \pm .002)}$	200
100	0.20	1 - 1 M	$\frac{6.4 \pm 0.13}{(.250 \pm .005)}$	$\frac{9.5 \pm 0.64}{(.375 \pm .025)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$ $\frac{0.6 \pm 0.05}{(.025 \pm .002)}$	200
SM7	0.25	1 - 1 M	$\frac{5.3 \pm 0.13}{(.210 \pm .005)}$	$\frac{11.8 \pm 0.64}{(.465 \pm .025)}$	$\frac{0.6 \pm 0.05}{(.025 \pm .002)}$	250
101	0.25	1 - 1.2 M	$\frac{6.4 \pm 0.13}{(.250 \pm .005)}$	$\frac{12.7 \pm 0.64}{(.500 \pm .025)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$ $\frac{0.6 \pm 0.05}{(.025 \pm .002)}$	300
102	0.33	1 - 2.5 M	$\frac{6.4 \pm 0.13}{(.250 \pm .005)}$	$\frac{19.1 \pm 0.64}{(.750 \pm .025)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$ $\frac{0.6 \pm 0.05}{(.025 \pm .002)}$	400
120	0.40	1 - 3.8 M	$\frac{9.5 \pm 0.13}{(.375 \pm .005)}$	$\frac{12.7 \pm 0.64}{(.500 \pm .025)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$	300
121	0.50	1 - 3.8 M	$\frac{9.5 \pm 0.13}{(.375 \pm .005)}$	$\frac{19.1 \pm 0.64}{(.750 \pm .025)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$	400
129	0.75	1 - 5 M	$\frac{9.5 \pm 0.13}{(.375 \pm .005)}$	$\frac{25.4 \pm 0.64}{(1.000 \pm .025)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$	600
106	1.00	1 - 5 M	$\frac{12.7 \pm 0.13}{(.500 \pm .005)}$	$\frac{25.4 \pm 0.64}{(1.000 \pm .025)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$	800
107	1.50	1 - 5 M	$\frac{12.7 \pm 0.13}{(.500 \pm .005)}$	$\frac{38.1 \pm 0.64}{(1.500 \pm .025)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$	900
108	2.00	1 - 5 M	$\frac{12.7 \pm 0.13}{(.500 \pm .005)}$	$\frac{50.8 \pm 0.64}{(2.000 \pm .025)}$	$\frac{0.8 \pm 0.05}{(.032 \pm .002)}$	1000



DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

LEAD LENGTH: $\frac{38.1 \pm 12.7}{(1.50 \pm .500)}$

¹ Other resistance values may be available; please [contact Bourns](#).

² Where more than one lead diameter is listed, the **bold** value is standard.

Additional Information

Click these links for more information:



[PRODUCT](#) [TECHNICAL LIBRARY](#) [INVENTORY](#) [SAMPLES](#) [CONTACT](#)



CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant. See 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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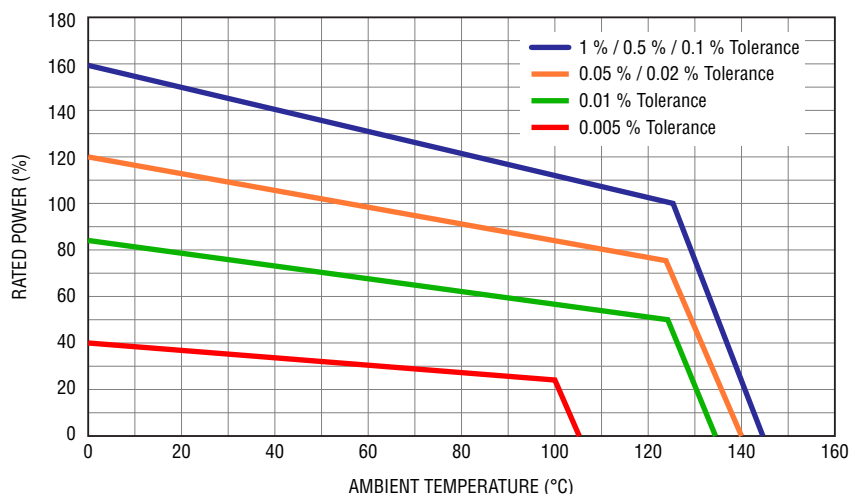
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Specifications

Specification	Value
Tolerances	±0.005 % to ±1 % (See Derating Curve)
Standard Temperature Coefficients ¹ (TCR)	from 1 Ω to 5 Ω : ±50 PPM/°C greater than 5 Ω to 10 Ω : ±30 PPM/°C greater than 10 Ω to 100 Ω : ±20 PPM/°C greater than 100 Ω : ±10 PPM/°C
Temperature Range	-55 °C to +245 °C (See Derating Curve)
Termination Finish	100 % Matte Tin over Copper

¹ [Contact Bourns](#) for other options. TCR down to ±2 PPM/°C may be available on request.

Power Derating Curves



Factory Options

Fast Rise Time - These resistors are available in a low reactance design for fast rise time and extended frequency response.

High Stability - These resistors are available in a high stability version with maximum resistance change of ±20 PPM/year under normal conditions.

Wide TCR Range - These resistors are available in low and high TC configurations from -20 PPM/°C to +6000 PPM/°C.

[Contact Bourns](#) for these options.

How To Order

SM6 - 25R X 1

Model _____
(See Specifications Table)

Resistance Code _____
For values ≤10K Ω, "R"
represents decimal point
(Example: 25R = 25 Ω)
For values >10K Ω, "K"
represents decimal point
(Example: 1K5 = 1.5K Ω)

Tolerance (%) _____
Y** = ±0.005 U = ±0.05 D = ±0.5 J = ±5
X** = ±0.01 B = ±0.1 F = ±1 K = ±10
W** = ±0.02 T = ±0.2 G = ±2
V** = ±0.025 C = ±0.25 H = ±3

Internal Use _____
(Specific TCR values are available upon request.)

**[Contact Bourns](#) for tolerances <±0.01 %.

Packaging Specifications

SM2-SM15.....100 pcs. bulk
100-102, 120, 121, 139A.....100 pcs. bulk
106-108, 12925 pcs. bulk

BOURNS®

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REV. 09/25

Specifications are subject to change without notice.

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