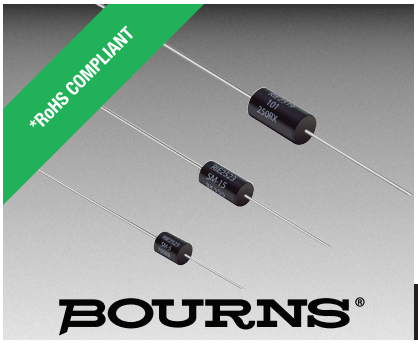


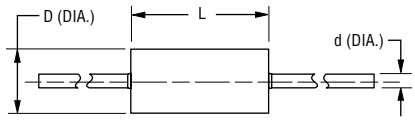
Features

- Formerly a Riedon™ product
- Resistances to 5 MΩ
- Resistance tolerances to ±0.005 %
- Non-inductive Multi-Pi 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	2.5 ± 0.13 (.100 ± .005)	5.3 ± 0.64 (.210 ± .025)	0.5 ± 0.05 (.020 ± .002)	75
SM3	0.08	1 - 150 k	3.2 ± 0.13 (.125 ± .005)	6.6 ± 0.64 (.260 ± .025)	**0.5 ± 0.05 (.020 ± .002)** 0.6 ± 0.05 (.025 ± .002)	100
SM4	0.10	1 - 250 k	3.2 ± 0.13 (.125 ± .005)	9.5 ± 0.64 (.375 ± .025)	0.5 ± 0.05 (.020 ± .002)	100
SM13	0.10	1 - 250 k	4.0 ± 0.13 (.156 ± .005)	7.9 ± 0.64 (.312 ± .025)	0.5 ± 0.05 (.020 ± .002)	100
SM5	0.12	1 - 400 k	4.7 ± 0.13 (.187 ± .005)	6.4 ± 0.64 (.250 ± .025)	0.6 ± 0.05 (.025 ± .002)	150
SM6	0.15	1 - 500 k	4.7 ± 0.13 (.187 ± .005)	7.5 ± 0.64 (.295 ± .025)	0.6 ± 0.05 (.025 ± .002)	150
139A	0.15	1 - 500 k	6.4 ± 0.13 (.250 ± .005)	6.4 ± 0.64 (.250 ± .025)	0.6 ± 0.05 (.025 ± .002)	100
SM15	0.175	1 - 750 k	4.7 ± 0.13 (.187 ± .005)	9.5 ± 0.64 (.375 ± .025)	0.6 ± 0.05 (.025 ± .002)	200
SM12	0.20	1 - 750 k	4.7 ± 0.13 (.187 ± .005)	11.4 ± 0.64 (.450 ± .025)	0.6 ± 0.05 (.025 ± .002)	200
100	0.20	1 - 1 M	6.4 ± 0.13 (.250 ± .005)	9.5 ± 0.64 (.375 ± .025)	**0.8 ± 0.05 (.032 ± .002)** 0.6 ± 0.05 (.025 ± .002)	200
SM7	0.25	1 - 1 M	5.3 ± 0.13 (.210 ± .005)	11.8 ± 0.64 (.465 ± .025)	0.6 ± 0.05 (.025 ± .002)	250
101	0.25	1 - 1.2 M	6.4 ± 0.13 (.250 ± .005)	12.7 ± 0.64 (.500 ± .025)	**0.8 ± 0.05 (.032 ± .002)** 0.6 ± 0.05 (.025 ± .002)	300
102	0.33	1 - 2.5 M	6.4 ± 0.13 (.250 ± .005)	19.1 ± 0.64 (.750 ± .025)	**0.8 ± 0.05 (.032 ± .002)** 0.6 ± 0.05 (.025 ± .002)	400
120	0.40	1 - 3.8 M	9.5 ± 0.13 (.375 ± .005)	12.7 ± 0.64 (.500 ± .025)	0.8 ± 0.05 (.032 ± .002)	300
121	0.50	1 - 3.8 M	9.5 ± 0.13 (.375 ± .005)	19.1 ± 0.64 (.750 ± .025)	0.8 ± 0.05 (.032 ± .002)	400
129	0.75	1 - 5 M	9.5 ± 0.13 (.375 ± .005)	25.4 ± 0.64 (1.000 ± .025)	0.8 ± 0.05 (.032 ± .002)	600
106	1.00	1 - 5 M	12.7 ± 0.13 (.500 ± .005)	25.4 ± 0.64 (1.000 ± .025)	0.8 ± 0.05 (.032 ± .002)	800
107	1.50	1 - 5 M	12.7 ± 0.13 (.500 ± .005)	38.1 ± 0.64 (1.500 ± .025)	0.8 ± 0.05 (.032 ± .002)	900
108	2.00	1 - 5 M	12.7 ± 0.13 (.500 ± .005)	50.8 ± 0.64 (2.000 ± .025)	0.8 ± 0.05 (.032 ± .002)	1000



DIMENSIONS: MM / (INCHES)

LEAD LENGTH: 38.1 ± 12.7 (1.50 ± .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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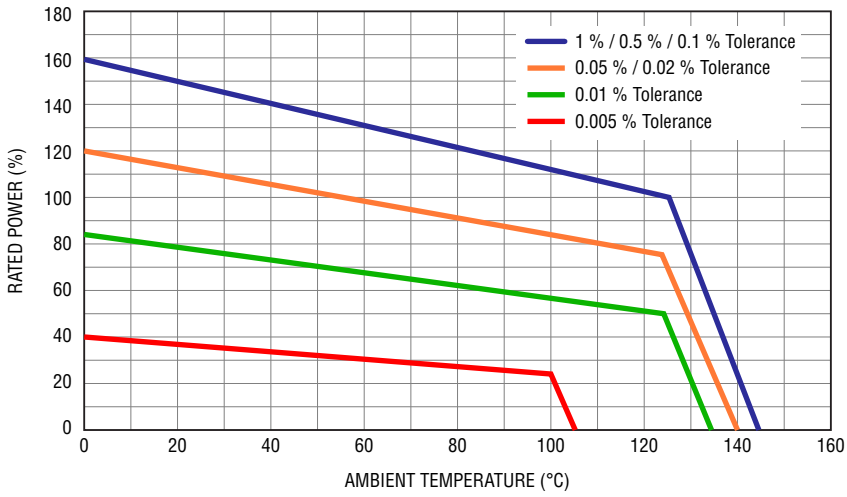
Specifications

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, 129 .....25 pcs. bulk

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REV. 09/25

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- Bourns considers implantable/invasive devices and devices/procedures designed as life-supporting or life-sustaining by the U.S. Food and Drug Administration or equivalent organizations outside of the United States as "life-critical" medical applications. Bourns expressly identifies those Bourns® standard products that are suitable for use in typical medical applications that are not life-critical in its publication entitled "Bourns Medical Grade Component Guide."

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