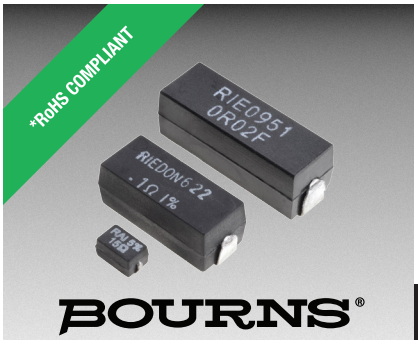

Features

- Formerly a Riedon™ product
- Resistances from 0.005 to 50 kΩ
- Resistance tolerances as low as ±0.05 %
- Power rating: 0.5 to 4 watts
- High temperature rating (+275 °C)
- TCR as low as ±20 PPM/°C
- Superior surge handling capability
- Non-inductive windings are available (Type SN)
- Flame resistant per UL 94V-0
- RoHS compliant*

S & SL Series – Riedon™ Surface Mount Wirewound Resistors by Bourns

Specifications

Bourns Part Number	Power Rating @ 70 °C (W)	Resistance Range (Ω)[1]	Non-Inductive Winding Resistance Range (Ω)[2]	Maximum Working Voltage
S1	0.5	0.01 to 400	0.1 to 200	√P * R
S2	1	0.005 to 3k	0.1 to 1.5K	
S4	2	0.01 to 15k	0.1 to 7.5K	
S3	3	0.01 to 25k	0.1 to 12.5K	
S5	4	0.01 to 50k	0.1 to 25K	
SL2	1	0.005 to 0.01	N/A[1]	
SL4	2	0.005 to 0.07	N/A[1]	

[1] Other resistance values may be available. Please contact Bourns.
[2] Below 0.1 Ω the inductance of a single winding, or the metal element (SL), is negligible.

Specifications	Value
Tolerances	S: greater than 100 Ω, ±0.05 % to ±5 % S: from 1 Ω to 100 Ω, ±0.1 % to ±5 % S: below 1 Ω, ±1 % to ±5 % SL: ±1 % to ±5 %
Temperature Coefficient	S: greater than 10 Ω : ±20 PPM/°C[3] S: from 1 Ω to 10 Ω : ±50 PPM/°C[3] S: less than 1 Ω : Contact Bourns SL: ±200 PPM/°C[3]
Temperature Range	-55 °C to +275 °C
Dielectric Strength	S: 1000 VAC SL: 500 VAC
Insulation Resistance	>1000 MOhms / Dry
Termination Finish	100% Electroless Tin (matte) over Copper

[3] Other TCR values available upon request.

Environmental Performance

Specification (MIL-STD 202)	Value
Dielectric	±0.5 % + 0.05 Ω
Load Life	±1.0 % + 0.05 Ω
Storage	±0.5 % + 0.05 Ω
Moisture Resistance	±1.0 % + 0.05 Ω
Thermal Shock	±0.5 % + 0.05 Ω
5X Overload (5 s)	±0.5 % + 0.05 Ω
Shock	±0.5 % + 0.05 Ω
Solder Heat Resistance (260 °C, 10 s)	±0.5 % + 0.05 Ω

*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. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

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

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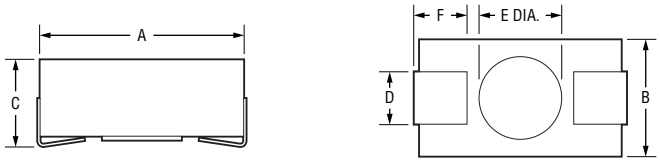
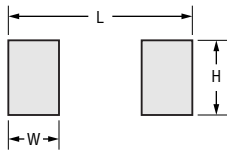
EMEA: Tel: +36 88 885 877
Email: eurocus@bourns.com

www.bourns.com

Product Dimensions



Recommended Layout



Bourns Model Number	Dimensions						Stand-Off	
	A	B	C	D	F	Lead Thickness	E	Height
S1	4.8 ± 0.4 (.190 ± .015)	3.3 ± 0.4 (.130 ± .015)	2.8 ± 0.4 (.110 ± .015)	1.5 ± 0.4 (.060 ± .015)	1.0 ± 0.4 (.040 ± .015)		2.5 ± 0.4 (.100 ± .015)	
S2	6.6 ± 0.4 (.260 ± .015)	3.9 ± 0.4 (.155 ± .015)	3.2 ± 0.4 (.125 ± .015)	1.8 ± 0.4 (.070 ± .015)	1.8 ± 0.4 (.070 ± .015)		3.0 ± 0.4 (.120 ± .015)	
S4	11.4 ± 0.4 (.450 ± .015)	6.4 ± 0.4 (.250 ± .015)	4.6 ± 0.4 (.180 ± .015)	3.0 ± 0.4 (.120 ± .015)	2.5 ± 0.4 (.100 ± .015)		4.8 ± 0.4 (.190 ± .015)	
S3	15.9 ± 0.4 (.625 ± .015)	6.9 ± 0.4 (.270 ± .015)	6.4 ± 0.4 (.250 ± .015)	3.0 ± 0.4 (.120 ± .015)	3.4 ± 0.4 (.135 ± .015)	0.15 ± 0.05 (.006 ± .002)	3.8 ± 0.4 (.150 ± .015)	0.13 ± 0.13 (.005 ± .005)
S5	20.8 ± 0.4 (.820 ± .015)	7.5 ± 0.4 (.295 ± .015)	7.7 ± 0.4 (.305 ± .015)	3.8 ± 0.4 (.150 ± .015)	4.8 ± 0.4 (.190 ± .015)		6.2 ± 0.4 (.245 ± .015)	
SL2	6.6 ± 0.4 (.260 ± .015)	3.9 ± 0.4 (.155 ± .015)	2.5 ± 0.4 (.100 ± .015)	1.8 ± 0.4 (.070 ± .015)	1.8 ± 0.4 (.070 ± .015)		3.0 ± 0.4 (.120 ± .015)	
SL4	11.4 ± 0.4 (.450 ± .015)	6.4 ± 0.4 (.250 ± .015)	2.5 ± 0.4 (.100 ± .015)	3.0 ± 0.4 (.120 ± .015)	2.5 ± 0.4 (.100 ± .015)		4.8 ± 0.4 (.190 ± .015)	

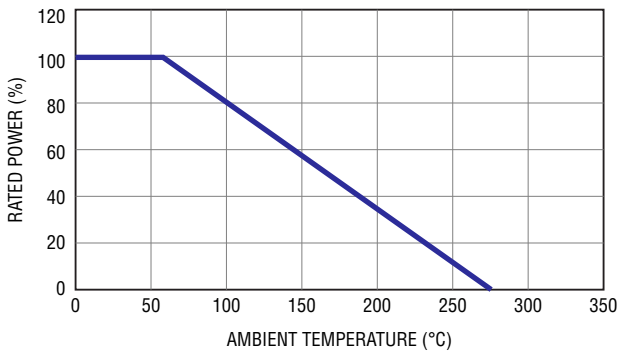
Bourns Model Number	Footprint		
	W	H	L
S1	1.6 ± 0.4 (.062 ± .015)	2.5 ± 0.4 (.100 ± .015)	6.4 ± 0.4 (.250 ± .015)
S2	2.4 ± 0.4 (.096 ± .015)	3.8 ± 0.4 (.150 ± .015)	8.6 ± 0.4 (.337 ± .015)
S4	3.8 ± 0.4 (.150 ± .015)	5.1 ± 0.4 (.200 ± .015)	13.7 ± 0.4 (.540 ± .015)
S3	5.1 ± 0.4 (.200 ± .015)	5.6 ± 0.4 (.220 ± .015)	17.8 ± 0.4 (.700 ± .015)
S5	5.6 ± 0.4 (.220 ± .015)	6.4 ± 0.4 (.250 ± .015)	22.9 ± 0.4 (.900 ± .015)
SL2	2.4 ± 0.4 (.096 ± .015)	3.8 ± 0.4 (.150 ± .015)	8.6 ± 0.4 (.337 ± .015)
SL4	3.8 ± 0.4 (.150 ± .015)	5.1 ± 0.4 (.200 ± .015)	13.7 ± 0.4 (.540 ± .015)

DIMENSIONS: MM (INCHES)

Standard Packaging Quantities

Bourns Model Number	13-Inch Reel	Approx. Unit Weight for Shipping (g)
S1	3000	0.11
S2	2000	0.21
S4	1000	0.71
S3	500	1.5
S5	500	2.8
SL2	2000	0.12
SL4	1000	0.36

Power Derating Curve



Surface Mount Humidity Packaging

Per Customer Change Notice dated August 8, 2018, (CCN1832) all Surface Mount wirewound resistors now have a Moisture Sensitivity Level (MSL) rating of 1. Surface Mount parts are packaged in a Moisture Barrier Bag (MBB) with a desiccant to ensure solderability. The MBB is marked with a Moisture-Sensitive Identification Label.

How To Order

S 4 - 100R F 1

Model
- S, SL = Standard Model
- SN, SLN = Non-inductive Model

Power Code
- (See Specifications table)

Resistance Code
- For values <1K Ω, "R" represents decimal point
  (Example: 0R1 = 0.1 Ω)
- For values 1K-10K Ω, "K" represents decimal point
  (Example 1K = 1K Ω, 1K5 = 1.5K Ω)

Tolerance
- (please see Specification table for selected resistance)

U** = ±0.05 %	F = ±1 %
B = ±0.1 %	G = ±2 %
T = ±0.2 %	H = ±3 %
C = ±0.25 %	J = ±5 %
D = ±0.5 %	

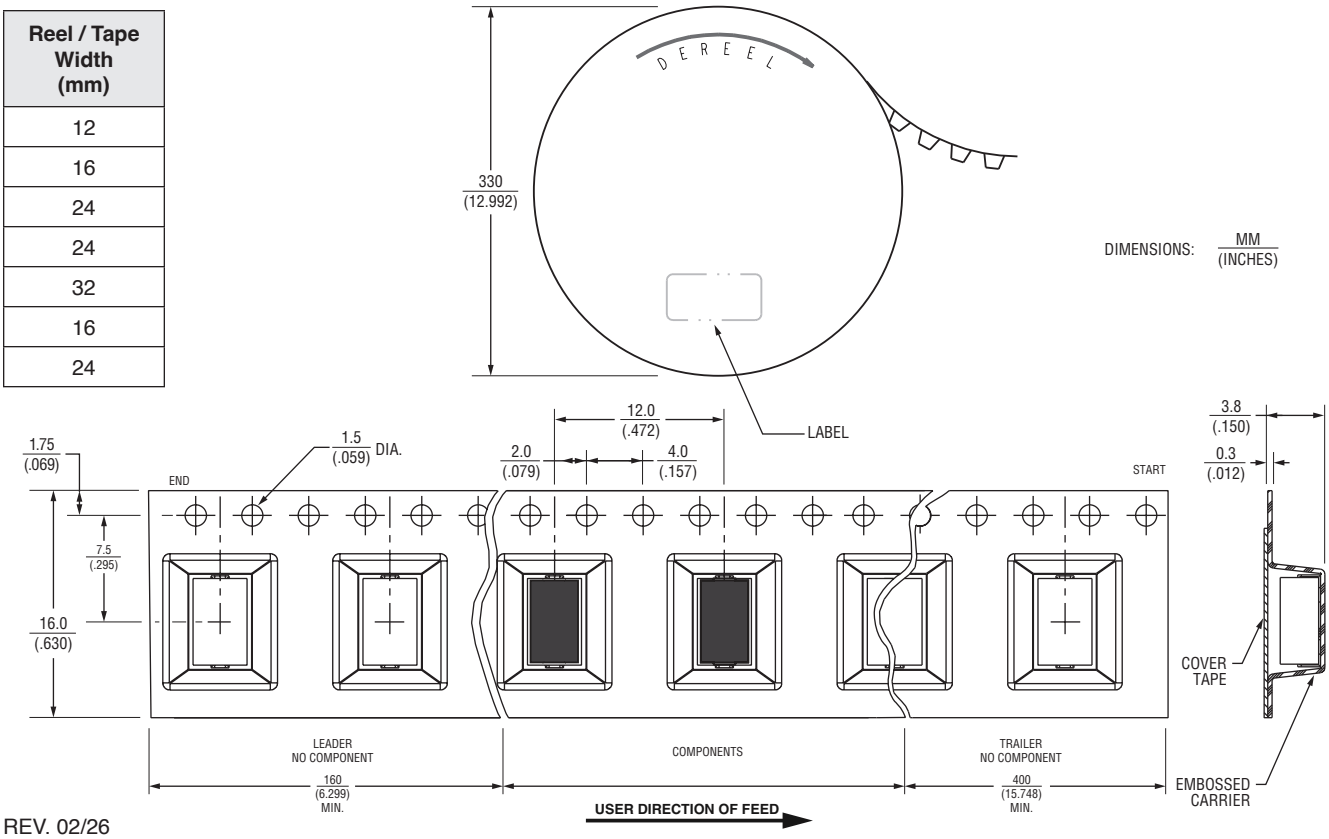
Internal Use

(Specific TCR value available upon request.)

**Contact Bourns for tolerances <±0.01 %.

Packaging Specifications

Reel / Tape Width (mm)
12
16
24
24
32
16
24



REV. 02/26

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