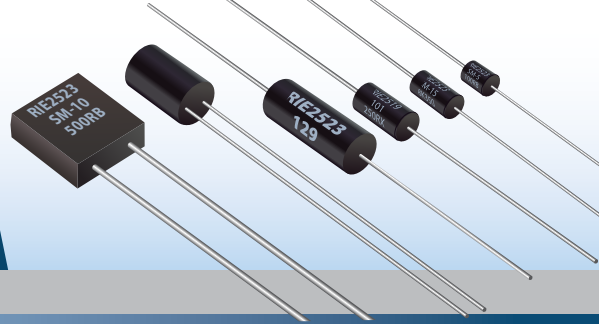
BOURNS®

Riedon™ Precision Wirewound Resistors by Bourns



NEW PRODUCT BRIEF

INTRODUCTION

The Riedon™ Precision Wirewound Resistors by Bourns are engineered to provide long-term stability with high accuracy. These new resistors offer wide resistance values, feature resistance tolerances as low as ±0.005 %, and are available in multiple package sizes and lead configurations. Highly ruggedized, this resistor series is designed to be exceptionally resistant to heat, flame, and moisture. The series' advanced features make them ideal for sensitive electronic, machine automation, measurement/calibration, lab equipment, and renewable energy generation applications that can benefit from the fine-tuned performance provided by these precision resistors.

FEATURES

- Resistance tolerance options of ±1 % to ±0.005 %
- Resistance ranges of 1 Ω to 6 MΩ
- Standard Temperature Coefficients (TCR) of ±2 to ±50 ppm/°C
- Power range: 0.05 to 2 W
- Options for customizable TCR, lower reactance, and higher stability
- Rugged radial, rectangular and axial package options

BENEFITS

- Flame and moisture resistant
- 100 % Acceptance Tested/Traceable to NIST
- Long-term stability, 100 ppm/year
- Non-inductive Multi-Pi core
- Noise-minimized design
- Exceedingly-low standard temperature coefficient of ±2 ppm/° C.

APPLICATIONS

The Riedon™ Precision Wirewound Resistors by Bourns deliver exceptional precision and stability that solve requirements for specific resistance values in sophisticated or sensitive applications. Designers will find these feature-rich resistors particularly well-suited for use in sensors, audio equipment, and other systems where even slight resistance variations can compromise accuracy. They also can significantly enhance power management in electric motors and engines by improving battery life and circuit precision.

Within electric vehicles, these resistors can help improve the stability and consistency of braking systems through more precise control, resulting in safer and more reliable operation. Precision wirewound resistors also play a critical role in energy systems, including energy storage systems, Battery Management Systems (BMS), wind turbines, and solar inverters. By reducing energy waste and increasing accuracy, this series is an excellent choice for improving circuit performance across a wide range of applications.

MARKET TRENDS

The market for wirewound resistors has been expanding significantly and is expected to continue to grow. Given the increasing demand for electric vehicles, green infrastructure, and automation, along with the growing need for accuracy in sensors and calibration equipment, precision wirewound resistors are needed for their ability to offer exact measurements and design versatility in robust form factors. Another benefit is that precision resistors offer minimal variations in resistance, resulting in their expanded applicability for calibration devices within telecommunication, audio equipment, aerospace, and medical instruments to increase performance and reliability. With precision wirewound resistors becoming crucial components in these growing industries, as well as increasingly being used to enhance operational efficiency in a variety of circuits, the Riedon™ Precision Wirewound Resistors by Bourns are and will continue to be a competitive choice enabling manufacturers to meet the development needs of high-end electronics.

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)

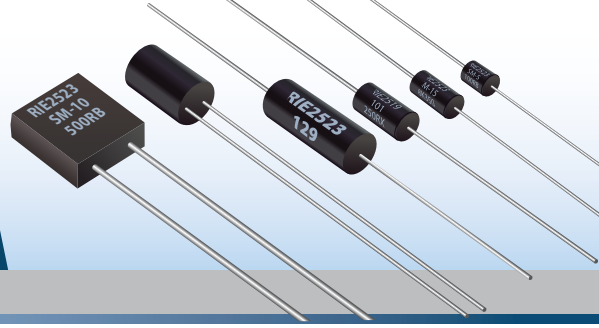
Tolerance (%)
Y** = ±0.005 U = ±0.05 D = ±0.5 J = ±5
X** = ±0.01 B = ±0.1 F = ±1 K = ±10
W** = ±0.02 T = ±0.2 G = ±2
V** = ±0.025 C = ±0.25 H = ±3

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

** Contact Bourns for tolerances <±0.01 %.

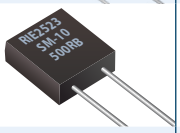
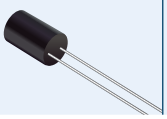
BOURNS®

Riedon™ Precision Wirewound Resistors by Bourns



NEW PRODUCT BRIEF

ELECTRICAL CHARACTERISTICS

Series	Product Image	Power Rating (W)	Tolerance (%)	Resistance Range (Ω)	Package Type	Temperature Coefficient (TCR) (PPM/°C)	Operating Temperature Range (°C)	Maximum Working Voltage (V)
SM, 1xx Series		0.06 - 2	± 0.005 - 1	1 – 6 M	Axial Leads	± 2 - 50	-55 to +145	75 – 1000
SM8, SM10 Series		0.125, 0.300	± 0.005 - 1	1 - 500 k	Rectangular Leads	± 2 - 50	-55 to +145	150
1xxPC Series		0.05 - 0.50	± 0.005 - 1	1 – 1M	Radial Leads	± 2 - 50	-55 to +145	150

For full characteristics, see data sheet