



Bourns Introduces CRH2512 Series High-Power Metal Alloy Resistors for Low-Ohmic Current Sensing

Compact 2512 surface-mount resistors provide up to 5 W power rating, resistance values from 0.5 mΩ to 30 mΩ, and operating temperatures from -55 °C to +170 °C

RIVERSIDE, Calif., September 23, 2026 - Bourns today announced its [CRH2512 Series High-Power Metal Alloy Resistors](#), designed for low-ohmic current sensing in compact surface-mount assemblies. The series combines a power rating of up to 5 W with resistance values from 0.5 mΩ to 30 mΩ, providing designers with a current-sensing component for high-current industrial and power-management applications.

Current-sensing circuits require designers to balance resistance value, power handling, temperature stability, and available PCB area. Excess resistance contributes to power loss, while changes in resistance over temperature can affect current-measurement accuracy. The CRH2512 Series uses metal alloy technology and provides TCR values of ± 75 ppm/°C at 0.5 mΩ and ± 50 ppm/°C from 1 mΩ to 30 mΩ. Its -55 °C to +170 °C operating temperature range supports use across changing thermal conditions.

"High-current sensing designs require low resistance values while maintaining predictable electrical characteristics across the operating temperature range," said Walter Garcia, Product Line Manager, Bourns. "The CRH2512 Series provides values down to 0.5 mΩ, power handling up to 5 W, and multiple resistance tolerance options in a 2512 surface-mount package. These characteristics give designers defined tradeoffs among current capability, resistance tolerance, and thermal operating conditions."

Walter Garcia, Product Line Manager, Bourns

Design Features

- Power rating up to 5 W — supports high-power current-sensing requirements in a compact 2512 surface-mount package.
- Low resistance range — provides resistance values from 0.5 mΩ to 30 mΩ to limit voltage drop and power loss in current-measurement paths.
- Low TCR — specified at ± 75 ppm/°C for 0.5 mΩ and ± 50 ppm/°C for resistance values from 1 mΩ to 30 mΩ.
- Multiple tolerance options — available with ± 1 %, ± 2 %, and ± 5 % resistance tolerances.
- High current capability — working current up to 100 A, depending on resistance value and terminal temperature.
- Wide operating temperature range — specified for operation from -55 °C to +170 °C.
- Moisture Sensitivity Level 1 — supports standard handling and assembly processes.
- RoHS compliant* and halogen free** — supports material-compliance requirements.

Electrical Specifications

Parameter	Specification
Series	CRH2512
Component type	High-power metal alloy resistor
Power rating	5 W
Resistance range	0.5 mΩ – 30 mΩ
TCR	±75 ppm/°C at 0.5 mΩ ±50 ppm/°C at 1 mΩ – 30 mΩ
Resistance tolerance	±1 %, ±2 %, ±5 %
Operating temperature	-55 °C – +170 °C
Terminal temperature	105 °C for 0.5 mΩ – 3 mΩ 85 °C for 4 mΩ – 30 mΩ
Maximum working current	100 A at 0.5 mΩ 70.71 A at 1 mΩ – 3 mΩ 35.35 A at 4 mΩ – 30 mΩ
Maximum overload current	200 A at 0.5 mΩ 141.42 A at 1 mΩ – 3 mΩ 70.71 A at 4 mΩ – 30 mΩ
Moisture Sensitivity Level	1
Packaging	Embossed tape on a 7-inch plastic reel 4,000 pieces per reel
Termination	Matte tin-plated, RoHS compliant* without exemption

Note: Rated current (A) is calculated as $\sqrt{P/R}$ and must not exceed the maximum working current.

Target Applications

- Power supplies — low-ohmic resistance supports current measurement with limited power loss.
- Industrial controllers — wide operating temperature capability supports industrial operating environments.
- Digital meters — low TCR supports stable current-measurement resistance over temperature.
- Current sensing — resistance values down to 0.5 mΩ support high-current measurement paths.
- Battery management systems — high current capability supports current monitoring in battery-management circuits.

Availability

Full specifications and ordering information are available at bourns.com/products/resistors/current-sense-resistors. Samples may be requested through [Bourns Customer Service](#).

About Bourns

Bourns is the global electronic components partner for design engineers whose systems must keep working—in vehicles, aircraft, defense and navigation systems, medical devices†, data centers, satellites, consumer electronics, energy systems, and the networks that connect them. Across power, protection, sensing, timing, and thermal management, Bourns builds solutions for the demanding requirements those systems create. The family that founded Bourns in 1947 still governs the company—a stewardship that lets Bourns commit to its people, technologies, and customers for decades rather than quarters. For more information, visit bourns.com.

Bourns® and the Bourns logo are registered trademarks of Bourns, Inc. and may be used only with the permission of Bourns and proper acknowledgment. Other listed names and brands are trademarks or registered trademarks of their respective owners.

'Bourns® products have not been designed for and are not intended for use in "lifesaving," "life-critical" or "life-sustaining" applications nor any other applications where failure or malfunction of the Bourns® product may result in personal injury or death. See Legal Disclaimer Notice www.bourns.com/docs/legal/disclaimer.pdf

Media Contacts

Company Contact:

Anneliese Treckmann

Bourns, Inc.

Anneliese.Treckmann@bourns.com

TEL +49 151 1478 5809

###