



Bourns Introduces New Wide-Terminal Current Sense Resistors for High-Current Power Applications

Ultra-low resistance, low inductance, and a 5 W power rating support accurate current measurement with reduced power loss

RIVERSIDE, Calif., October 6, 2026 - Bourns today announced the [CRK2725 Series Metal Strip, Wide-Terminal Current Sense Resistors](#) for current sensing and power management applications. The surface-mount series combines resistance values from 0.2 mΩ to 1 mΩ with a 5 W power rating at 70 °C, helping designers measure current in high-current circuits while limiting resistor power loss and heat generation.

Current sensing resistors must balance measurement accuracy, power handling, thermal performance, and PCB area. Parasitic inductance can introduce measurement error in fast-switching circuits, while thermal electromotive force can affect precision as operating temperatures change. Higher shunt resistance also increases I^2R losses in the measurement path. The CRK2725 Series addresses these constraints with a wide-terminal metal strip design, inductance below 5 nH, thermal EMF below 40 μV/°C, and an operating temperature range from -55 °C to +170 °C.

“Designers working with high-current power circuits need to control the electrical and thermal effects introduced by the current sensing element. The CRK2725 Series combines resistance values down to 0.2 mΩ with inductance below 5 nH and thermal EMF below 40 μV/°C. These characteristics support current measurement where power loss, switching behavior, and temperature-related error must be considered together.”

Walter Garcia, Product Line Manager, Bourns

Key Design Features

- Wide-terminal design for superior heat dissipation - spreads heat through the terminals to support thermal management in high-current circuit layouts
- Low inductance <5 nH - reduces the parasitic inductive contribution in switching circuits
- Low thermal EMF <40 μV/°C - helps limit temperature-related measurement error
- Ultra-low resistance - values from 0.2 mΩ to 1 mΩ help limit I^2R power loss in the current measurement path
- RoHS compliant* and halogen free** - supports material compliance requirements

Electrical Specifications

Parameter	CRK2725 Series
Power rating at 70 °C	5 W
Resistance range	0.2 mΩ – 1 mΩ
Operating temperature range	-55 °C to +170 °C
Temperature coefficient of resistance	±100 ppm/°C
Resistance tolerance	±1 %, ±5 %
Inductance	<5 nH
Thermal EMF	<40 μV/°C
Insulation resistance	>100 MΩ
Maximum working voltage	√(P × R)

Target Applications

- Current sensing - measurement of current through a low-resistance shunt
- Power supplies - current monitoring within power conversion and regulation circuits
- Stepper motor drives - current measurement for motor winding drive and control
- Input amplifiers - low-resistance current sensing at amplifier input stages

Availability

Product information, inventory resources, and sample-request access regarding the [Bourns® CRK2725 Series](#) are available at bourns.com/products/resistors/metal-strip-chip-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

###