



Bourns Releases Metal Oxide Varistor Series for High-Energy Line-Voltage Surge Protection

Copper-electrode MOVs provide scalable disc sizes and high surge ratings across multiple line-voltage classes

RIVERSIDE, Calif., September 1, 2026 - Bourns has introduced the [MOV-07DxxxKC](#), [MOV-10DxxxKC](#), [MOV-14DxxxKC](#), and [MOV-20DxxxKC](#) Series metal oxide varistors, a family of radial-leaded transient voltage suppressors designed for high-energy and high-surge overvoltage protection in line-voltage systems. The series spans 7 mm, 10 mm, 14 mm, and 20 mm disc sizes, providing designers with scalable surge capability while maintaining consistent electrical behavior across voltage classes. Copper-based electrode construction enables surge and energy performance comparable to traditional silver-electrode MOVs while supporting cost-optimized designs.

Designers of power and line-connected equipment must balance surge current capability, energy absorption, and compliance requirements against aggressive cost and volume targets. Conventional MOV technologies often force tradeoffs between surge robustness and overall bill-of-materials efficiency, particularly in high-volume applications. The MOV-07DxxxKC, MOV-10DxxxKC, MOV-14DxxxKC and MOV-20DxxxKC Series address this constraint by combining high peak surge ratings, fast response time, and broad voltage coverage with a copper-electrode structure. Multiple disc diameters and lead configurations allow protection levels to be scaled without redesigning the surrounding circuit.

"Line-voltage protection circuits are increasingly expected to withstand higher surge stress while remaining cost-controlled in volume production," said Tomaz Bojko, Product Line Manager for Product Line Manager MOVs at Bourns. "The MOV-07DxxxKC, MOV-10DxxxKC, MOV-14DxxxKC and MOV-20DxxxKC Series maintain the surge current and energy ratings designers expect from established MOV technologies, while the copper-electrode construction supports competitive cost structures across multiple disc sizes and voltage ratings."

Design Features and Key Capabilities

- **High surge current capability** — rated for 8/20 μ s surge waveforms, with peak surge current ratings up to 6,500 A depending on disc size and voltage rating
- **Broad voltage coverage** — varistor voltage options from 200 V to 820 V for 7 mm and 10 mm discs, and from 200 V to 1,800 V for 14 mm and 20 mm discs
- **Fast response time** — typical response time of 10 ns to 25 ns for effective transient suppression
- **Copper-electrode construction** — provides surge and energy performance comparable to silver-electrode MOVs while supporting cost-optimized designs
- **Flexible mechanical options** — available with straight leads, kinked leads (outward), and kinked leads (in-line) to support PCB layout and assembly requirements
- **UL 1449 recognized** — evaluated to industry standard surge protection requirements
- **RoHS compliant***

Electrical Specifications

Parameter	MOV-07DxxxKC	MOV-10DxxxKC	MOV-14DxxxKC	MOV-20DxxxKC
Disc Diameter	7 mm	10 mm	14 mm	20 mm
Varistor Voltage Range	200 V – 820 V	200 V – 820 V	200 V – 1,800 V	200 V – 1,800 V
Maximum Continuous Voltage (V_{RMS})	130 V – 510 V	130 V – 510 V	130 V – 1,100 V	130 V – 1,100 V
Peak Surge Current (8/20 μ s)	Up to 1,200 A	Up to 2,500 A	Up to 4,500 A	Up to 6,500 A
Operating Temperature	–40 °C to +105 °C	–40 °C to +105 °C	–40 °C to +105 °C	–40 °C to +105 °C
Varistor Voltage Tolerance	±10 %	±10 %	±10 %	±10 %

Target Applications

Level control, tuning, and timer settings in:

- AC power supplies
- Power distribution systems
- Line-voltage protection circuits
- Telecommunications equipment
- White goods and household appliances

Availability

The [MOV-07DxxxKC](#), [MOV-10DxxxKC](#), [MOV-14DxxxKC](#), [MOV-20DxxxKC](#) Series metal oxide varistors are available through Bourns' authorized distribution network. Full specifications and ordering information are available at www.bourns.com. Samples may be requested through [Bourns Customer Service](#).

About Bourns

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