

Industry-Lowest RDS(on) 200V MOSFETs in Multiple Standard Power Packages Available from iDEAL Semiconductor

New SuperQ™ 200V MOSFETs deliver industry-lowest RDS(on) across multiple industry-standard power packages.

LEHIGH VALLEY, PA, UNITED STATES, March 10, 2026 /EINPresswire.com/ -- [iDEAL Semiconductor](#) announces the expansion of its SuperQ™ 200V MOSFET portfolio, delivering industry-leading on-resistance across the most widely used power semiconductor packages.

The [iS20M5R5S1T](#) sets a new benchmark as the lowest RDS(on) 200V MOSFET available in the industry-standard TOLL package, while the newly introduced [iS20M6R3S1P](#) delivers the lowest RDS(on) for a 200V MOSFET in the TO-220 package. Together, these devices provide unmatched efficiency and flexibility for surface-mount and through-hole power designs.



By delivering the industry's lowest on-resistance in standard power packages, our SuperQ technology enables higher efficiency, higher power density, and simpler system design"

Mark Granahan, CEO and Founder of iDEAL Semiconductor

The iS20M5R5S1T achieves a maximum RDS(on) of just 5.5mΩ in a compact TOLL package, enabling higher power density and reduced conduction losses in space-constrained designs. Complementing it, the iS20M6R3S1P delivers a maximum RDS(on) of 6.3mΩ in the robust TO-220 package, providing designers with best-in-class efficiency in applications that favor through-hole assembly, mechanical mounting, or direct heatsinking.

Building on these releases, iDEAL Semiconductor plans to extend its 200V, 5.5mΩ SuperQ performance benchmark into additional industry-standard packages later in 2026,



including:

- D2PAK-7L (iS20M5R5S1H) – optimized for high-current surface-mount designs with enhanced thermal and mechanical robustness
- TOLT (iS20M5R5S1TC) – optimized for ultra-compact, high-power-density layouts with top-side cooling capability for next-generation power systems

These SuperQ 200V devices are specifically targeted for demanding motor-drive applications, where efficiency, robustness, and fault tolerance are critical.

Key features critical to motor drive designs include:

- Industry-leading short-circuit withstand current (SCWC)
- Easier paralleling with +/- 0.5V VGS(th)
- 175°C industrial temperature rating
- Industry-leading current handling of 151A (TOLL) 172A (TO-220)
- Avalanche-rated, 100% UIS testing in production

Beyond motor drives, these devices are also used in switched-mode power supplies (SMPS), secondary-side synchronous rectification, and high-current industrial and battery-powered systems, where efficiency, thermal performance, and robustness are critical.

“By delivering the industry’s lowest on-resistance in standard power packages, our SuperQ technology enables higher efficiency, higher power density, and simpler system design,” said Mark Granahan, CEO and Founder of iDEAL Semiconductor.

Availability

The iS20M5R5S1T and iS20M6R3S1P are in volume production and available for ordering through iDEAL’s global distribution channels.

The iS20M5R5S1H (D2PAK-7L) and iS20M5R5S1TC (TOLT) are currently sampling and are planned for production release later in 2026.

Datasheets and additional technical information are available at www.idealsemi.com/products/

Designers can subscribe at idealsemi.com/contact-us/ to receive notifications as additional SuperQ™ devices and package options are released.

About iDEAL Semiconductor

iDEAL Semiconductor Devices, Inc. is an industry-leading developer of next-generation silicon power devices.

The company was founded with a mission to push silicon beyond its perceived limits. Its patented SuperQ technology delivers breakthrough energy efficiency using conventional CMOS processes – without departing from the proven benefits of silicon.

The platform technology, applicable across a wide range of products, applications, and semiconductor materials, is purpose-built to mitigate power loss in every application and to enable greener energy use for the next generation.

iDEAL is based in the Lehigh Valley, Pennsylvania, and for further information, please visit www.idealsemi.com

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