**News Release**

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**Renesas Introduces New MOSFETs with Exceptional Performance**

*New Renesas Wafer Technology Delivers 30 Percent Lower On-resistance, 40 Percent Reduction in Gate-Drain Charge, and 50 Percent Smaller Package Size*

**Düsseldorf, January 9, 2025 ―** Renesas Electronics Corporation (TSE: 6723), a premier supplier of advanced semiconductor solutions, today introduced new 100V high-power N-Channel MOSFETs that deliver industry-leading high-current switching performance for applications such as motor control, battery management systems, power management and charging. End products include electric vehicles, e-bikes, charging stations, power tools, data centers, uninterruptable power supplies (UPS) and more.

Renesas has developed a new MOSFET wafer manufacturing process (REXFET-1) that enables the new devices to drastically reduce on-resistance (the resistance between the drain and source when the MOSFET is on) by 30 percent. The lower on-resistance contributes to much lower power loss in customer designs.

The REXFET-1 process also enables the new MOSFETs to offer a 10 percent reduction in Qg characteristics (the amount of charge needed to apply voltage to a gate), and a 40 percent reduction in Qgd (the amount of charge that needs to be injected into the gate during the "Miller Plateau" phase).

In addition to superior electrical characteristics, Renesas’ new RBA300N10EANS and RBA300N10EHPF MOSFETs are available in industry-standard TOLL and TOLG packages that are pin-compatible with devices from other manufacturers, and 50 percent smaller than traditional TO-263 packages. The TOLL package also offers wettable flanks for optical inspection.

“Renesas has been a leader in the MOSFET market for many years,” said **Avi Kashyap, Vice President of Discrete Power Solutions BU at Renesas**. “As we apply our manufacturing muscle to this market, we can provide customers with superior technical products, as well as assurance of supply from multiple high-volume facilities.”

**Winning Combinations**

Renesas has combined the new MOSFETs with numerous compatible devices from its portfolio to offer a wide array of Winning Combinations, including among others, [48V Mobility Platform](https://www.renesas.com/applications/automotive/vehicle-control/48v-mobility-platform#winning_combinations_interactive_diagram) and [3-in-1 Electric Vehicle Unit: Inverter, Onboard Charger, DC/DC Converter](https://www.renesas.com/applications/industrial/renewable-energy-grid/3-1-electric-vehicle-unit-inverter-onboard-charger-dcdc-converter#winning_combinations_interactive_diagram). These designs are technically vetted system architectures from mutually compatible devices that work together seamlessly to bring an optimized, low-risk design for faster time to market. Renesas offers more than 400 Winning Combinations with a wide range of products from the Renesas portfolio to enable customers to speed up the design process and bring their products to market more quickly. They can be found at [www.renesas.com/win](http://www.renesas.com/win).

**Availability**The [RBA300N10EANS](https://www.renesas.com/products/power-discretes/power-mosfets/rba300n10eans-3ua02-rexfet-1-n-channel-power-mosfet-100v-340a-15m?utm_campaign=power_dps_mosfets-pwrp&utm_source=businesswire&utm_medium=pr&creative=pr&utm_content=pp&type=feat) and [RBA300N10EHPF](https://www.renesas.com/products/power-discretes/power-mosfets/rba300n10ehpf-5ua02-rexfet-1-n-channel-power-mosfet-100v-340a-15m?utm_campaign=power_dps_mosfets-pwrp&utm_source=businesswire&utm_medium=pr&creative=pr&utm_content=pp&type=feat) MOSFETs are available in production volumes today. Renesas is also offering a reference design with [application note](https://www.renesas.com/document/apn/toll-package-mosfet-evaluation?r=25568075&utm_campaign=power_dwp_mosfets-pwrp&utm_source=businesswire&utm_medium=pr&creative=pr&utm_content=apn&type=feat) to help customers shorten design cycles. More information on these new products is available at [www.renesas.com/MOSFET](https://www.renesas.com/products/power-discretes/power-mosfets).

**About Renesas Electronics Corporation**

Renesas Electronics Corporation ([TSE: 6723](http://www.jpx.co.jp/english/)) empowers a safer, smarter and more sustainable future where technology helps make our lives easier. A leading [global](https://www.renesas.com/about/company/profile/global.html) provider of microcontrollers, Renesas combines our expertise in embedded processing, analog, power and connectivity to deliver complete semiconductor solutions. These Winning Combinations accelerate time to market for automotive, industrial, infrastructure and IoT applications, enabling billions of connected, intelligent devices that enhance the way people work and live. Learn more at [renesas.com](http://www.renesas.com/). Follow us on [LinkedIn](https://www.linkedin.com/company/renesas/), [Facebook](https://www.facebook.com/RenesasElectronics/), [X](https://twitter.com/renesasglobal), [YouTube](https://www.youtube.com/user/RenesasPresents) and [Instagram](https://www.instagram.com/renesas_global/).

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