**News Release**

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**Renesas Introduces New Gate Driver IC for IGBTs and SiC MOSFETs Driving EV inverters**

The New Gate Driver IC Supports 1200V Power Devices with

3.75kVrms in Isolation Voltage

**Düsseldorf, January 25, 2023 ―** Renesas Electronics Corporation (TSE: 6723), a premier supplier of advanced semiconductor solutions, today announced a new gate driver IC that is designed to drive high-voltage power devices such as IGBTs (Insulated Gate Bipolar Transistors) and SiC (Silicon Carbide) MOSFETs for electric vehicle (EV) inverters.

Gate driver ICs are essential components to EV inverters, providing an interface between the inverter control MCU and the IGBTs and SiC MOSFETs that deliver power to the inverter. They receive control signals from the MCU in the low-voltage domain and transfer these signals to rapidly turn power devices on and off in the high-voltage domain. To accommodate the higher voltages of EV batteries, the RAJ2930004AGM has a built-in 3.75kVrms (kV root mean square) isolator, which is higher than the 2.5kVrms isolator in the [previous generation product](https://www.renesas.com/us/en/products/automotive-products/automotive-power-management/motor-and-solenoid-drivers/r2a25110ksp-gate-driver-hevev), and can support power devices with a withstand voltage of up to 1200V. In addition, the new driver IC boasts superior CMTI (Common Mode Transient Immunity) performance at 150 V/ns (nanosecond) or higher, providing reliable communication and increased noise immunity while meeting the high voltages and fast switching speeds required in inverter systems. The new product offers the basic functions of a gate driver in a small SOIC16 package, making it ideal for cost-effective inverter systems.

The RAJ2930004AGM can be used together with Renesas IGBTs as well as with IGBTs and SiC MOSFETs from other manufacturers. In addition to traction inverters, the gate driver IC is ideal for a wide range of applications that use power semiconductors, such as on-board chargers and DC/DC converters. To help developers bring their products to market quickly, Renesas offers the [xEV Inverter Kit](https://www.renesas.com/products/microcontrollers-microprocessors/rh850-automotive-mcus/pr-inv06500780-fb-xev-inverter-kit) solution that combines gate driver ICs with MCUs, IGBTs, and power management ICs, and plans to release a version incorporating the new gate driver IC in the first half of 2023.

“Renesas is pleased to offer the second-generation gate driver IC for automotive applications with high isolation voltage and superior CMTI performance," said **Akira Omichi, Vice President of Renesas' Automotive Analog Application Specific Business Division**. “We will continue to drive application development for EVs by offering solutions that minimize power loss and meet high levels of functional safety in our customers’ systems.”

**Key Features of the RAJ2930004AGM Gate Driver IC**

Isolation capabilities

* Withstand Isolation voltage: 3.75kVrms
* CMTI (Common Mode Transient Immunity): 150V/ns

Gate drive capabilities

* + Output peak current: 10A

Protection/fault detection functions

* + On-chip active Miller clamp
* Soft turn-off
* Overcurrent protection (DESAT protection)
* Under voltage lockout (UVLO)
* Fault feedback

Operating temperature range: -40 to 125°C (Tj:150°C max.)

This product will help increase the adoption of EVs by realizing cost-efficient inverters, thereby minimizing environmental impacts.

**Availability**The RAJ2930004AGM gate driver IC is available today in sample quantities with mass production scheduled for the first quarter of 2024. More information on the new product is available at: [https://www.renesas.com/products/automotive-products/automotive-power-management/motor-and-solenoid-drivers/raj2930004agm-gate-driver-hevev](https://www.renesas.com/products/automotive-products/automotive-power-management/motor-and-solenoid-drivers/raj2930004agm-gate-driver-hevev%20)

**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/), [Twitter](https://twitter.com/renesasglobal), [YouTube](https://www.youtube.com/user/RenesasPresents) and [Instagram](https://www.instagram.com/renesas_global/).

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