**News Release**

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**Renesas’ New Automotive Intelligent Power Device Enables Safe and Flexible Power Distribution in Next-Generation E/E Architectures**

The New Power Device Achieves a 40% Smaller Footprint

**Düsseldorf, January 17, 2023 ―** Renesas Electronics Corporation (TSE: 6723), a premier supplier of advanced semiconductor solutions, announced today a new automotive Intelligent Power Device (IPD) that will safely and flexibly control power distribution within vehicles, addressing the requirements of next-generation E/E (electrical/electronic) architectures. The new RAJ2810024H12HPD is available in the small TO-252-7 package and reduces the mounting area by about 40% compared to the conventional TO-263 package product. In addition, the advanced current detection function of the new device allows highly accurate detection of abnormal currents such as overcurrent. Since the new IPD detects abnormal currents even at low loads, it allows engineers to design highly safe and precise power control systems that can detect even the smallest abnormalities.

"We are very pleased to launch a new generation of automotive IPDs featuring our new power MOSFET process,” said **Akira Omichi, Vice President of Renesas' Automotive Analog Application Specific Business Division.** “Renesas will continue to develop IPDs that improve the safety and reliability of power supply systems and facilitate system development for our customers by offering system-level solutions with our microcontrollers.”

The new IPD was developed to address the growing requirements as E/E architectures continue to evolve. In a conventional distributed E/E architecture, power supply from the battery is distributed to each Electronic Control Unit (ECU) via long, thick wires from a power box consisting of mechanical relays and fuses. IPDs have a longer life and are maintenance-free compared to mechanical relays, so they can be placed anywhere in the vehicle. As the automotive industry moves toward centralized or zone-oriented E/E architectures, IPDs are becoming an ideal choice for building efficient and flexible power supply networks since they use shorter, thinner wires. Renesas’ IPD in particular provides a more efficient, safer and smaller solution for power distribution control.

**Key Features of the New IPD (RAJ2810024H12HPD)**

* Single-channel high-side IPD
* Small TO-252-7 package (6.10 x 6.50 mm: excluding pins)
* Low on-resistance (Ron) of 2.3mΩ at 25°C (typ.)
* Highly accurate current detection at low loads
* Built-in charge pump
* Self-diagnostic feedback by load current sense
* Protection functions such as load short-circuit, overheat detection, sense current output, and GND open protection
* Supports 3.3V/5V logic interface
* Low standby current
* Battery reverse connection protection with self-turn-on
* Compliant with AEC-Q100 and RoHS automotive standards

**“Power Distribution Box with E-fuse” Solution**

Renesas offers the [Power Distribution Box with E-fuse](https://www.renesas.com/application/automotive/gateway-domain-control/power-distribution-box-e-fuse) solution using an existing IPD. By replacing the conventional fuses in the power supply box with small IPDs and programming the fuse characteristics into the microcontroller, developers can optimize the wiring harness and improve reliability through current monitoring. This solution is part of Renesas’ Winning Combinations, which optimally combine mutually compatible Renesas devices that work together seamlessly to reduce user design risk and shorten time to market. Renesas offers more than 300 other Winning Combinations with a wide range of products from its portfolio. More information is available at: <http://www.renesas.com/win>.

**Availability**The RAJ2810024H12HPD is available today in sample quantities with mass production scheduled in Q1/2024. More information on the new product is available at <https://www.renesas.com/products/automotive-products/automotive-power-devices/automotive-protected-and-intelligent-power-devices>.

**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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