**News Release**

No.: REN2440(A)

**Renesas Introduces USB PD EPR Solution Featuring Type-C Port Controller and Buck-Boost Battery Charger**

*New Solution Offers Superior Efficiency and Safety Features for Power Tools, Portable Vacuums, Lawn Mowers, Two-Wheelers, and More*

**Düsseldorf, December 10, 2024 ―** Renesas Electronics Corporation (TSE:6723), a premier supplier of advanced semiconductor solutions, today introduced the RAA489118 buck-boost battery charger and the RAA489400 USB Type-C® port controller. The two new ICs combine to provide a premier Extended Power Range (EPR) USB Power Delivery (PD) solution.

Renesas is a worldwide leader in USB-PD solutions, offering a comprehensive range of products including turnkey solutions for various applications. Renesas helps customers shorten their time-to-market with an extensive development environment and pre-certified USB-IF reference designs, Renesas USB-PD solutions offer superior quality and safety, along with high efficiency and power density.

The RAA489118 functions as either a battery charger supporting two to seven battery cells in series or as a voltage regulator supporting 30V input and 30V output. It employs Renesas’ patented R3™ (Robust Ripple Regulator) technology, which combines the best features of fixed-frequency and hysteretic Pulse-Width Modulation (PWM) technologies. R3 modulation technology delivers acoustic noise-free operation, fast dynamic response, and best-in-class light-load efficiency for longer battery life.

The RAA489118 includes an SMBus (System Management Bus) interface that is widely employed in power tools, home appliances and light industrial products. The SMBus interface, combined with the buck-boost and bidirectional features, allows the RAA489118 to work seamlessly with the RAA489400 and other components in USB-C PD implementations. Its input and output voltage levels also match mainstream solar power voltage levels, making it an ideal fit for solar portable power station applications.

The RAA489400 port controller supports USB-PD VBUS power up to 48V/5A. It features an integrated PHY, both Sink and Source Power Path Gate Drivers with external NFETs, short-circuit protection, VBUS discharge, a VCONN MUX and dead battery support.

“Renesas has been a worldwide leader in battery charging for many years based on advanced technology, adaptability, and exceptional value,” said **Chris Allexandre, Senior Vice President and General Manager of Power at Renesas**. “The RAA489118 and RAA489400 bring those strengths along with Renesas’ strong legacy of safety and reliability to new applications such as power tools and light industrial products. We expect to see strong demand from customers across multiple markets.”

**Key Features of the Renesas USB EPR PD Solution**

* Battery charger supporting two to seven battery cells in series
* Buck-boost voltage regulator supporting 30V input and 30V output
* Renesas R3™ technology ensures minimal power loss and improved efficiency
* Advanced control scheme delivers fast transient response and system performance
* Robust thermal management and protection features for safety and reliability
* Adaptable configurations support a wide range of applications
* Built-in protection against overcharging, overheating, and voltage anomalies
* Bidirectional power flow
* USB-IF certified reference design reduces compliance testing time and effort
* Comprehensive design support and tools

**Winning Combinations**

Along with other USB-PD controllers, battery management ICs, and Type-C port management products, Renesas offers a turnkey USB-PD Charger Winning Combination that minimizes the effort required for customers to integrate USB-PD and battery management system features into their products. Winning Combinations 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 [renesas.com/win](https://www.renesas.com/applications?utm_campaign=f-up-mcu_ra8e-epsg-iotbd-ipm1-null&utm_source=null&utm_medium=pr&utm_content=acp).

**Device Availability**

The RAA489118 comes in a 4×4 mm 32-lead TQFN package, and the RAA489400 is packaged in a 32-Ld 3x5 mm FCQFN. Both products are available today from Renesas. Comprehensive design support and tools, including VIDWriter configuration tools and battery charger GUI software to configure designs, are also available. For more information, please visit [www.renesas.com/RAA489118](https://www.renesas.com/products/power-management/battery-management/battery-charger-ics/raa489118-buck-boost-battery-charger-smbus-interface-general-30v-and-usb-pd-epr?utm_campaign=power_bms_usbc-pwrp&utm_source=businesswire&utm_medium=pr&creative=pr&utm_content=pp&type=feat) and [www.renesas.com/RAA489400](https://www.renesas.com/products/power-management/usb-c-power/usb-c-power-delivery/raa489400-usb-type-c-port-controller?utm_campaign=power_bms_usbc-pwrp&utm_source=businesswire&utm_medium=pr&creative=pr&utm_content=pp&type=feat).

**Renesas Power Management Leadership**

A world leader in power management ICs, Renesas ships more than 1.5 billion units per year, with increased shipments serving the computing industry, and the remainder supporting industrial and Internet of Things applications as well as data center and communications infrastructure. Renesas has the broadest portfolio of power management devices, delivering unmatched quality and efficiency with exceptional battery life. As a trusted supplier, Renesas has decades of experience designing power management ICs, backed by a dual-source production model, the industry’s most advanced process technology, and a vast network of more than 250 ecosystem partners. For more information about Renesas, visit [www.renesas.com/power](http://www.renesas.com/power).

**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/).

###

(Remarks). USB Type-C® and USB-C® are registered trademarks of USB Implementers Forum. All names of products or services mentioned in this press release are trademarks or registered trademarks of their respective owners.

**Media contact for further information, text and graphics or to discuss feature article opportunities:**

Alexandra Janetzko / Martin Stummer

HBI Communication Helga Bailey GmbH(PR agency), Hermann-Weinhauser-Str. 73, 81673 Munich, Germany

Tel.: +49 89 99 38 87-32 / -34

Email: alexandra\_janetzko@hbi.de / martin\_stummer@hbi.de

Web: [www.hbi.de](http://www.hbi.de/)