1. **News Release**

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**Renesas Electronics Simplifies Power Supply Design with Scalable Digital Controllers for Cloud Computing, Communications, and Industrial Applications**

*Feature-Rich ISL68300 and ISL68301 Deliver up to Eight Phases and More Than 240A for FPGAs, DSPs, ASICs, and Network Processors*

Düsseldorf, July 18, 2018 – Renesas Electronics Corporation (TSE:6723), a premier supplier of advanced semiconductor solutions, today announced two new PMBus™ compliant, fully digital DC/DC controllers that provide single output point-of-load (POL) conversions for FPGAs, DSPs, ASICs, network processors and general purpose system rails. The ISL68300 with integrated MOSFET drivers and ISL68301 with PWM output simplify designing power supplies for data center, wired and wireless communications, and factory automation equipment. The ISL68300 can drive discrete external MOSFETs directly, while the ISL68301 pairs with Renesas’ smart power stages or DrMOS power stages to create a complete voltage regulator solution.

The ISL68300 and ISL68301 digital controllers feature a high-speed current share bus that parallels up to eight controllers in an 8-phase 240A+ current share configuration. Both controllers implement Renesas’ digital ChargeMode™ control modulation, which responds to load transients in a single switching cycle, and provides an inherently stable control loop without requiring external compensation. This modulation architecture significantly reduces output capacitor requirements and minimizes Vout undershoot and overshoot.

“The scalability of the ISL68300 and ISL68301 single output digital controllers provide industry leading performance and support a wide range of load currents,” said Mark Downing, Vice President, Core Power Solutions Division, Renesas Electronics Corporation. “The new digital controllers complement our award-winning digital dual-output multiphase controllers, giving customers everything they need to power all the rails in their next-generation systems.”

Engineers can use the PowerNavigator™ GUI with the ISL68300 and ISL68301 to simplify power supply setup, sequencing, configuration and monitoring, including all device parameters and telemetry. Full schematic designs are completed in minutes, and the GUI with PMBus makes it easy to control the entire design and change features without soldering components or rework. To download the PowerNavigator GUI, please visit: <https://www.intersil.com/powernavigator>.

**Key Features of ISL68300 and ISL68301 Digital Controllers**

* Parallel up to eight controllers in a single droop-less current sharing output
* Output voltage range: 0.45V to 5.5V
* Input voltage range: 4.75V to 16V or 4.5V to 5.5V
* 0.5% output voltage accuracy over line, load, and temperature
* Switching frequency range of 200kHz to 1.0MHz
* Proprietary single-wire Digital-DC™ (DDC) serial bus enables voltage sequencing and fault spreading with other Renesas digital power ICs
* Cycle-by-cycle inductor peak current protection
* Configurable fault protection for Vout under voltage (UV), over voltage (OV), Vin UV/OV, and temperature
* Nonvolatile memory stores operating parameters and records telemetry fault events

In a typical FPGA power supply, the ISL68300 and ISL68301 digital controllers provide single output 10A to 40A+ for auxiliary rails, DDR memory, and system rails. The companion [Renesas digital multiphase controllers](https://www.intersil.com/en/products/power-management/zilker-labs-digital-power/digital-multiphase-controllers.html) use smart power stages to provide dual output 15A to 70A, or higher core power.

**Pricing and Availability**

The ISL68300 with integrated driver optimized to work with discrete MOSFETs is available now in a 4mm x 4mm, 24-lead QFN package and priced at $2.60 USD in 1k quantities. Single-phase and 2-phase evaluation boards are available for $125 USD each. For more information, please visit: [www.intersil.com/products/isl68300](http://www.intersil.com/products/isl68300).

The ISL68301 with PWM output for pairing with [ISL99227B](https://www.intersil.com/en/products/power-management/computing-power-vrm-imvp/smart-power-stage/ISL99227B.html) smart power stages or [DrMOS](https://www.intersil.com/en/products/power-management/computing-power-vrm-imvp/drmos--driver---fet-/ISL99140.html#parametrics) power stages is available now in a 4mm x 4mm, 24-lead QFN package and priced at $2.26 USD in 1k quantities. Single-phase and 2-phase evaluation boards are available for $125 USD each. For more information, please visit: [www.intersil.com/products/isl68301](http://www.intersil.com/products/isl68301).

**About Renesas Electronics Corporation**

Renesas Electronics Corporation ([TSE: 6723](http://www.jpx.co.jp/english/)) delivers trusted embedded design innovation with complete semiconductor solutions that enable billions of connected, intelligent devices to enhance the way people work and live—securely and safely. A [global](https://www.renesas.com/en-hq/about/company/profile/global.html) leader in microcontrollers, analog, power and SoC products and integrated platforms, Renesas provides the expertise, quality, and comprehensive solutions for a broad range of Automotive, Industrial, Home Electronics, Office Automation and Information Communication Technology applications to help shape a limitless future. Learn more at [renesas.com](http://www.renesas.com/).

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