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NEWS RELEASE

# Power Integrations' 1700 V Switcher IC Delivers Reliability and Space-Saving Benefits in 800 V BEVs

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Performance of InnoSwitch™3-AQ flyback IC demonstrated in new reference designs featuring wide-creepage package

NUREMBERG, Germany--(BUSINESS WIRE)-- PCIM 2025 – **Power Integrations** (NASDAQ: **POWI**), the leader in high-voltage integrated circuits for energy-efficient power conversion, today announced five new reference designs targeting 800 V automotive applications based on the company's 1700 V **InnoSwitch™3-AQ** flyback switcher ICs. Spanning power levels from 16 W to 120 W, the designs leverage both wound and low-profile planar transformers and target automotive applications such as DC-DC bus conversion, inverter emergency power, battery management and power supplies for auxiliary systems. The designs feature Power Integrations' new wide-creepage InSOP™-28G package, which supports 1000 VDC on the primary side while providing appropriate creepage and clearance between pins in pollution degree 2 environments.

The InnoSwitch3-AQ IC, featuring a 1700 V silicon-carbide (SiC) switch, is an ideal solution for 800 V vehicles, simplifying manufacturing while enhancing overall system performance and reliability.

"The new InSOP™-28G package, with its wide 5.1 mm drain-to-source pin creepage distance, addresses the critical need for enhanced safety and reliability in high-voltage applications," said Mike Stroka, product marketing engineer at Power Integrations. "It provides sufficient isolation that conformal coating can be eliminated, saving a manufacturing process step and associated qualification effort. The InnoSwitch3-AQ IC, featuring a 1700 V silicon-carbide (SiC) switch, is an ideal solution for 800 V vehicles, simplifying manufacturing while enhancing overall system performance and reliability."

Available from **www.power.com**, the following reference designs are all isolated flyback converters based on the

1700 V-rated CV/CC InnoSwitch3-AQ switcher ICs. The three reference designs kits (RDKs) and two design example reports (DERs) are:

- **RDK-994Q**— 35 W ultra-low-profile traction inverter gate-drive or emergency power supply with 40-1000 VDC input and 24 V output;
- **RDK-1039Q**— 18 W power supply with planar transformer for traction inverter gate driver or emergency power supply;
- **RDK-1054Q**— 120 W power supply with planar transformer, designed to shrink or eliminate heavy, bulky 12 V batteries;
- **DER-1030Q**— 20 W four-output power supply—one emergency power supply (EPS) with 24.75 V output and three gate-drive power supplies with 25.5 V output;
- **DER-1045Q**— 16 W four-output power supply—one 14 V EPS output and three gate-drive outputs with split +18 V / -5 V rails.

Power Integrations' 1700 V-rated SiC-based CV/CC **InnoSwitch3-AQ** switching power supply ICs deliver up to 120 watts of output power. The highly integrated ICs reduce power supply bill of materials (BOM) count by as much as 50 percent, saving space, enhancing system reliability and easing component sourcing challenges. Devices start up with as little as 30 volts on the drain pin without external circuitry, which is often a critical requirement for functional safety. Additional protection features include input under-voltage, output over-voltage and over-current limiting. Power consumption is less than 15 mW at no-load. The ICs also incorporate synchronous rectification and a valley switching, discontinuous/continuous conduction mode (DCM/CCM) flyback controller capable of delivering greater than 91 percent efficiency.

## Availability & Resources

Pricing for the new 1700 V-rated InnoSwitch3-AQ switching power supply ICs starts at $6 per unit for 10,000-unit quantities. The reference design kits range from $50 to $100 per kit. Design engineers can enter a drawing to win one of the reference design kits at **pages.power.com/rev-up**. For further information, contact a Power Integrations sales representative or one of the company's authorized worldwide distributors – **DigiKey**, **Newark**, **Mouser** and **RS Components**, or visit **power.com**.

## About Power Integrations

**Power Integrations, Inc.**, is a leading innovator in semiconductor technologies for high-voltage power conversion. The company's products are key building blocks in the clean-power ecosystem, enabling the generation of renewable energy as well as the efficient transmission and consumption of power in applications ranging from milliwatts to megawatts. For more information, please visit **www.power.com**.

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