

NEWS RELEASE

Power Integrations Introduces Industry's First Automotive-Qualified High-Voltage Switcher ICs with 1700 V SiC MOSFET

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Expanded InnoSwitch3 family slashes component count and boosts efficiency in EV and industrial applications

SAN JOSE, Calif.--(BUSINESS WIRE)-- **Power Integrations** (Nasdaq: **POWI**), the leader in high-voltage integrated circuits (ICs) for energy-efficient power conversion, today announced the addition of two new AEC-Q100 qualified, 1700-volt rated ICs to its **InnoSwitch™3-AQ** family. The new devices are the industry's first automotive-qualified switching power supply ICs to incorporate a silicon carbide (SiC) primary switching MOSFET. Delivering up to 70 watts of output power, the new ICs are targeted for use in 600- and 800-volt battery and fuel-cell electric passenger vehicles, as well as electric buses, trucks and a wide range of industrial power applications.

Power Integrations introduces industry's first automotive-qualified high-voltage switcher ICs with 1700 V SiC MOSFET. Expanded InnoSwitch3 family slashes component count and boosts efficiency in EV and industrial applications. (Graphic: Business Wire)

Highly integrated InnoSwitch ICs reduce the number of components required to implement a power supply by as

much as 50 percent, saving significant circuit-board space, enhancing system reliability and mitigating component sourcing challenges. Devices from the award-winning InnoSwitch family are now available with a choice of cost-effective silicon, high-efficiency gallium nitride (GaN) and high-voltage SiC transistors, permitting designers to optimize their power solution across a broad range of consumer, computer, communications, industrial and automotive applications.

Peter Vaughan, director of automotive business development at Power Integrations, said: "800-volt batteries are becoming standard for EVs. Multiple vehicle systems are connected to this powerful electrical source, yet delicate

electronic control circuits require just a few volts for operation and communication. InnoSwitch devices allow the electronics to safely sip from the firehose of energy available on the main bus, using minimal board area and without wasting energy. Most exciting is the opportunity to dramatically simplify the emergency power supply for the main traction inverter, which may be called upon at a moment's notice to operate from any voltage between 30 volts and 1000 volts. Our SiC-based InnoSwitch3-AQ devices handle this vast range with incredible ease."

Offered in a compact InSOP™-24D package, the new ICs use a FluxLink™ feedback link, providing reinforced isolation up to 5000 VRMS for secondary-side control. FluxLink technology enables direct sensing of the output voltage, providing benefits such as accurate regulation and extremely fast transient response. The circuit will start from 30 volts without external circuitry – critical for functional safety. Additional protection features include input under-voltage, output over-voltage and over-current limiting.

The inclusion of synchronous rectification and a quasi-resonant (QR) / CCM flyback controller achieves greater than 90% efficiency, easily meeting the strictest OEM requirements. These new parts consume less than 15 mW at no-load, which is ideal for reducing self-discharge in battery management systems.

The InnoSwitch3-AQ 1700-volt parts are also suitable for industrial markets, where the integrated solution replaces discrete controller-plus-MOSFET designs, saving space, time and cost while increasing reliability in applications such as renewables, industrial motor drives, battery storage and metering.

Availability & Resources

A reference design, **DER-913Q**, and hardware kit **RDk-919Q**, are available for designers wishing to evaluate the InnoSwitch3-AQ 1700-volt IC. Devices are priced at \$5.64 for part number INN3947CQ-TL and \$9.02 for part number INN3949CQ-TL in 1,000-unit quantities. For further information contact a Power Integrations sales representative or one of the company's authorized worldwide distributors: **Digi-Key**, **Farnell**, **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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