power integrations

NEWS RELEASE

Power Integrations Launches 900 V GaN Flyback Switcher ICs

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New PowiGaN InnoSwitch ICs target industrial applications and 400-volt-system automotive power supplies to 100 watts

ORLANDO, Fla.--(BUSINESS WIRE)-- APEC 2023 – **Power Integrations** (NASDAQ: **POWI**), the leader in high-voltage integrated circuits (ICs) for energy-efficient power conversion, today announced a 900-volt gallium-nitride (GaN) extension to the company's **InnoSwitch3**™ family of flyback switcher ICs. The new ICs, which feature the company's proprietary **PowiGaN**™ technology, deliver up to 100 watts with better than 93 percent efficiency, eliminating the need for heat sinks and streamlining design of space-challenged applications. InnoSwitch3 designs also offer exceptional light-load efficiency making them ideal for providing auxiliary power in electric vehicles during low-power sleep modes. The AEC-Q100-qualified InnoSwitch3-AQ family is particularly suitable for EVs based on 400-volt bus systems where the 900-volt PowiGaN switch provides more power and increased design margin—required for 12-volt battery-replacement systems—with enhanced efficiency over silicon-based converters.

Power Integrations Launches 900 V GaN Flyback Switcher ICs (Photo: Business Wire)

"The dominant bus voltage for electric vehicles is 400 volts," stated Peter Vaughan, automotive business development director at Power Integrations. "EV manufacturers are optimizing their new generation of 400-volt systems and re-engineering various power stages in the vehicle, such as the on-board charger. The 900-volt PowiGaN switch is extremely beneficial because it easily accommodates inductive noise spikes, yet it can operate from as low as 30 VDC, enabling systems to meet functional safety active discharge requirements. The extra power delivered by our GaN technology matches the increasing power demands of EV manufacturers, moreover, efficiency in power conversion—even in auxiliary systems—is important for both range extension and thermal management."

In the industrial space, extra power and increased efficiency are extremely advantageous in applications such as appliances, three-phase motors and auxiliary power supply units (PSUs) in servers. The new 900-volt parts are pin-for-pin compatible with existing 725-volt and 750-volt InnoSwitch3-EP parts and offer increased safety margin which is ideal for countries with unstable line voltages.

“Our ability to deliver GaN parts rated at up to 900 volts demonstrates the reliability and ruggedness of our PowiGaN technology,” stated Silvestro Fimiani, senior product marketing manager at Power Integrations.

The new 900-volt InnoSwitch3-EP and InnoSwitch3-AQ off-line CV/CC flyback switcher ICs employ synchronous rectification, a valley switching discontinuous conduction mode (DCM) and continuous conduction mode (CCM) flyback controller. FluxLink™ communication technology enables the IC package to bridge the isolation barrier, optimizing efficiency and eliminating the need for optocouplers. PowiGaN technology enables InnoSwitch3-EP ICs to deliver up to 100 watts (230 volts alternating current [VAC] plus or minus 15 percent) without heat sinks. InnoSwitch3-EP devices incorporate multiple protection features including line over- and under-voltage protection, output over-voltage and over-current limiting, and over-temperature shutdown. Devices are available with standard and peak power delivery options. Automotive InnoSwitch3-AQ devices can also deliver 100 watts from a 400-volt bus and provide performance and protection features similar to those of the popular 1700-volt silicon-carbide InnoSwitch3-AQ ICs currently used in 800-volt EV systems.

Availability & Resources

Pricing for the new 900-volt GaN **InnoSwitch3-EP** devices for industrial applications start at $2.00 for 10,000-unit quantities. For the **InnoSwitch3-AQ** automotive-qualified devices or further information on all Power Integrations’ solutions, 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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