Market News

Infineon introduces CoolGaN™ IPS family for applications in the 30 to 500 W power range

Munich, Germany – 4 May 2021 – Power switches based on the wide bandgap (WBG) material gallium nitride (GaN) enable excellent efficiency and high switching frequency, starting a new era in power electronics. To support this development, Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) adds the new CoolGaN™ IPS family of integrated power stage (IPS) products to its broad portfolio of WBG power devices. The initial IPS portfolio consists of half-bridge and single-channel products, targeting low-to medium power applications, including chargers and adapters and switched-mode power supplies (SMPS).

The 600 V CoolGaN half-bridge IPS IGI60F1414A1L is ideally suited for compact and lightweight designs in the low-to-medium power range. Coming in a thermally enhanced 8x8 QFN-28 package, it enables systems with very high power density. The product combines two 140 mΩ / 600 V CoolGaN e-mode HEMT switches with dedicated galvanically isolated high- and low-side gate drivers out of Infineon's EiceDRIVER™ family.

The IGI60F1414A1L is easy to control due to the isolated gate driver with two digital PWM inputs. The integrated isolation function, the clean separation of digital and power ground and the reduced complexity of the PCB layout are crucial in achieving shorter development time, lower system bill-of-material and lower total cost. The gate driver's input-to-output isolation is based on Infineon's proven on-chip coreless transformer (CT) technology. This guarantees high speed and excellent robustness even for extremely fast switching transients with voltage slopes exceeding 150 V/ns.

The switching behavior of IGI60F1414A1L can be easily adapted to the needs of different applications by means of a few passive gate path components. This allows slew rate optimization for example to reduce electromagnetic interference (EMI) efforts, steady-state gate current setting, and negative gate drive for robust operation in hard-switched applications.

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Furthermore, due to the system-in-package integration and the highly accurate and stable propagation delay of the gate drivers, the IGI60F1414A1L enables the lowest possible system dead-times. This helps to maximize system efficiency, leading to the next level of power density up to 35 W/in³ for charger and adapter solutions. Flexible, easy and fast designs are also enabled for other applications, including LLC resonant topology and motor drives.

Availability

The IGI60F1414A1L is available in a thermally enhanced 8x8 QFN-28 package and can be ordered now. More information is available at www.infineon.com/coolgan-ips. The 600 V CoolGaN IPS half-bridge will be showcased at Infineon's Virtual Power Conference, which complements "PCIM Europe digital days."

Infineon's Virtual Power Conference 2021

Experience the difference in Power – Power semiconductors are the key to an energy-efficient world. New technologies such as silicon carbide (SiC) and gallium nitride (GaN) enable higher power efficiency, smaller form factors and lower weight. Silicon also plays a major role in many designs. Energy efficiency is the focus of the "Virtual Power Conference," which will be available 'live' from 4 to 6 May, 2021. As a leading supplier of power semiconductors, Infineon will use the exclusive digital platform to present technologies and systems that generate energy more efficiently, transmit and distribute with lower losses, and showcase a wide range of energy-efficient applications. Focus areas comprise the verticals Industry, Transport & e-Mobility and Consumer. The online platform opens its doors starting 4 May 2021. Please click here to register.

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