Market News

Infineon expands CoolSiC™ portfolio, 2 kV voltage class to enable simple, high-power density solutions for 1500 V_{DC} applications

Munich, Germany – 10 May, 2022 – The increasing demand for high-power density is pushing developers to adopt 1500 V_{DC} link in their applications to increase the rated power-per-inverter and reduce system costs. However, 1500 V_{DC} based systems also pose more challenges on the system design, such as fast switching at high DC voltage, which typically requires a multi-level topology. This leads to a complicated design and a relatively high number of components. To address this challenge, Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) today introduced its expanded CoolSiC™ portfolio with high-voltage solutions to provide the foundation for next-generation photovoltaic, EV charging and energy storage systems.

The extended CoolSiC portfolio offers 2 kV silicon carbide (SiC) MOSFETs, along with a 2kV SiC diode for applications up to 1500 V_{DC}. The new SiC MOSFET combines both low-switching losses and high-blocking voltage in one device that can optimally meet the requirements of 1500 V_{DC} systems. The new 2 kV CoolSiC technology offers a low drain-source on resistance ($R_{DS(on)}$) value. In addition, the rugged body diode is suitable for hard switching. The technology enables sufficient overvoltage margin and offers ten times lower FIT rate caused by cosmic ray, compared to 1700 V SiC MOSFETs. Furthermore, the extended gate voltage operating range makes the devices easy to use.

This new SiC MOSFET chip is based on Infineon's advanced SiC MOSFET technology named M1H which has recently been introduced. The latest advancements enable a significantly larger gate voltage window that improves the on-resistance for a given die size. Simultaneously, the larger gate voltage window provides a high robustness against driver- and layout-related voltage peaks at the gate, without any restrictions even at high switching frequencies. Infineon offers a range of EiceDRIVER™ gate drivers with functional isolation of up to 2.3 kV to support the 2 kV SiC MOSFETs.

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Availability

Samples of the 2 kV CoolSiC MOSFETs are available now in EasyPACK™ 3B and 62mm modules, and later in a new high-voltage discrete TO247-PLUS package. In addition, Infineon offers a design-in eco-system with a 2.3 kV isolation-capable EiceDRIVER. The start of production of the Easy 3B (DF4-19MR20W3M1HF_B11), a power module with 4 boost circuits that acts as the MPPT stage of a 1500 V PV string inverter, is planned for Q3 2022, with the 62mm module in half-bridge configuration (3, 4, 6 mΩ) to follow in Q4 2022. The discrete devices utilizing the latest award-winning .XT interconnection technology will be available by the end of 2022. More information is available at www.infineon.com/CoolSiC.

Infineon at PCIM 2022

At PCIM 2022, Infineon will be presenting innovative product-to-system solutions for applications that are set to power the world and shape the future. Company representatives are also holding several presentations at the PCIM Conference and Industry & E-Mobility Forum with live and on-demand video presentations, followed by discussions with the speakers. “Experience the difference in power” at Infineon’s booth #412 in hall 7 (10-12 May 2022, Nuremberg/Germany). Information about the PCIM show highlights is available at www.infineon.com/pcim.

More information about Infineon’s contribution to energy efficiency:
www.infineon.com/green-energy

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