MARKET NEWS

Infineon unveils CoolSiC™ MOSFETs 400 V redefining power density and efficiency in AI server power supplies

Munich, Germany – 27 May 2024 – With the increasing power requirements of Artificial Intelligence (AI) processors, server power supplies (PSUs) must deliver more and more power without exceeding the defined dimensions of the server racks. This is driven by a surge in energy demand of high-level GPUs, which could consume 2 kW and more per chip by the end of the decade. These needs, as well as the emergence of increasingly demanding applications and the associated specific customer requirements have prompted Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) to extend the development of SiC MOSFETs to voltages below 650 V. The company is now launching the new CoolSiC™ MOSFET 400 V family, which is based on the second generation (G2) CoolSiC technology introduced earlier this year. The new MOSFET portfolio was specially developed for use in the AC/DC stage of AI servers, complementing Infineon's recently announced PSU roadmap. The devices are also ideal for solar and energy storage systems (ESS), inverter motor control, industrial and auxiliary power supplies (SMPS) as well as solid-state circuit breakers for residential buildings.

"Infineon offers an extensive portfolio of high-performance MOSFETs and GaN transistors to meet the demanding design and space requirements of AI server power supplies", said Richard Kuncic, Head of the Power Systems Business Line at Infineon. "We are committed to supporting our customers with advanced products such as the CoolSiC MOSFETs 400 V G2 to drive highest energy efficiency in advanced AI applications."

The new family features ultra-low conduction and switching losses when compared to existing 650 V SiC and Si MOSFETs. Implemented in a multi-level PFC, the AC/DC stage of the AI Server PSU can attain a power density of more than 100 W/in³ and is proven to reach 99.5 percent efficiency. This is an efficiency improvement of 0.3 percentage points over solutions using 650 V SiC MOSFETs. In addition, the system solution for AI Server PSUs is completed by implementing CoolGaN™ transistors in the DC/DC stage. With this combination of high-performance MOSFETs and transistors, the power supply can deliver more than 8 kW with an increase in power density by a factor of more than 3 compared to current solutions.

The new MOSFET portfolio comprises a total of 10 products: five $R_{DS(on)}$ classes from 11 to 45 mΩ in Kelvin-source TOLL and D²PAK-7 packages with .XT package interconnect

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technology. The drain-source breakdown voltage of 400 V at T_{vj} = 25°C. makes them ideal for use in 2- and 3-level converters and for synchronous rectification. The components offer high robustness under harsh switching conditions and are 100 percent avalanche tested. The highly robust CoolSiC technology in combination with the .XT interconnect technology enables the devices to cope with power peaks and transients caused by sudden changes in the power requirements of the AI processor. Both the connection technology and a low and positive $R_{DS(on)}$ temperature coefficient enable excellent performance under operating conditions with higher junction temperatures.

Availability

Engineering samples of the CoolSiC MOSFET 400 V portfolio are now available and will go into series production from October 2024 on. The latest generation of Infineon's CoolSiC MOSFETs will be showcased at the Infineon booth at PCIM Europe 2024 in June. More information is available at www.infineon.com/coolsic-gen2. Further information about Infineon's SiC, GaN and Si solutions for powering AI PSUs is available at www.infineon.com/AI-PSU.

Infineon at the PCIM Europe 2024

PCIM Europe will take place in Nuremberg, Germany, from 11 to 13 June 2024. Infineon will present its products and solutions for decarbonization and digitalization in hall 7, booths #470 and #169. Company representatives will also be giving several presentations at the accompanying PCIM Conference and Forums, followed by discussions with the speakers. If you are interested in interviewing an expert at the show, please email media.relations@infineon.com. Industry analysts interested in a briefing can email MarketResearch.Relations@infineon.com. Information about Infineon's PCIM 2024 show highlights is available at www.infineon.com/pcim.

About Infineon

Infineon Technologies AG is a global semiconductor leader in power systems and IoT. Infineon drives decarbonization and digitalization with its products and solutions. The company has around 58,600 employees worldwide and generated revenue of about €16.3 billion in the 2023 fiscal year (ending 30 September). Infineon is listed on the Frankfurt Stock Exchange (ticker symbol: IFX) and in the USA on the OTCQX International over-the-counter market (ticker symbol: IFNNY).

Further information is available at www.infineon.com
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