MARKET NEWS

Infineon introduces new 600 V CoolMOS™ S7TA MOSFETs featuring integrated high-precision temperature sensor

Munich, Germany – 7 June 2024 – Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) today introduced the 600 V CoolMOS™ S7TA Superjunction MOSFET for automotive power management applications. Designed to meet the specific requirements of automotive electronics, the S7TA features an integrated temperature sensor that significantly improves the accuracy of junction temperature sensing, building on the advances made by its counterpart for industrial applications (CoolMOS S7T). The resulting benefits include improved durability, safety, and efficiency, all of which are essential in the automotive domain.

Like its industrial counterpart, the automotive-graded CoolMOS S7TA is particularly well suited for solid-state relay (SSR) applications, demonstrating superior $R_{DS(on)}$ and sensing accuracy, which is crucial for various automotive electronic devices that rely on efficient power management solutions. The integration of a Superjunction MOSFET with an embedded temperature sensor in the same package enhances the performance of SSRs and ensures dependable operation even under the most severe overload conditions, which is an absolute necessity for automotive applications where reliability is non-negotiable.

The embedded sensor of the S7TA offers a 40 percent increase in accuracy and up to four times faster response time than standalone on-board sensors. Such advances in temperature monitoring are critical for automotive applications, enabling individual monitoring within multi-device systems, thereby improving reliability, and preventing thermal issues that can lead to system failures.

The optimized power transistor utilization of the CoolMOS S7TA promises not only superior performance, but also precise control of the output stage. This level of precision is key to reducing power consumption and energy costs, which is a pressing concern in automotive applications where efficiency translates directly into vehicle range and operational economy. Compared to traditional electromechanical relays, the CoolMOS S7TA offers a significant improvement in total power dissipation.

The CoolMOS S7TA further provides a high overcurrent threshold, which serves to increase the reliability of the SSR and reduce the likelihood of failures. The robust switching solution paves the way for safer operations within the vehicle, and the enhanced robustness of the

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MOSFETs leads to a longer automotive relay lifecycle, resulting in lower maintenance and replacement costs.

The 600 V CoolMOS S7TA provides an optimized solution for potential applications that are central to the safety and functionality of modern vehicles. These include critical components such as circuit breakers, encompassing high-voltage battery disconnect switches, low-frequency switches for both direct current (DC) and alternating current (AC), as well as high-voltage electronic fuses (HV eFuses).

Infineon also introduces the EVAL_eFuse_PoC_400V_S7, a proof-of-concept board that showcases the robustness and versatility of an automotive eFuse. The board demonstrates a reliable method for safeguarding automotive electrical systems, featuring an interchangeable power stage that adapts to various operating conditions with different voltage classes and cooling methods.

Availability

Both the 600 V CoolMOS S7T in automotive and industrial grades are already available and come in QDPAK TSC and BSC packages, offering a range of $R_{DS(on)}$ from 17 to 40 mΩ. The 10 mΩ variant will be added to the lineup in the second half of 2024. Further information is available at www.infineon.com/s7ta and www.infineon.com/s7t.

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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