

ISSUE: [July 2026](#)

SiC Power Module Extends Operation To 205°C Benefitting EVs

[Infineon Technologies'](#) FS01M9R13A7MA2B 1300-V silicon carbide (SiC) power module, a member of the HybridPACK Drive family, is capable of continuous operation at temperatures up to 205°C. This exceeds the capacity of existing designs, which typically allow up operation to 175°C. The higher temperature limit enables automotive OEMs and Tier 1 suppliers to deliver higher peak and continuous output power from existing inverter designs or, in new designs, reduce system complexity and overall cost (see the figure).

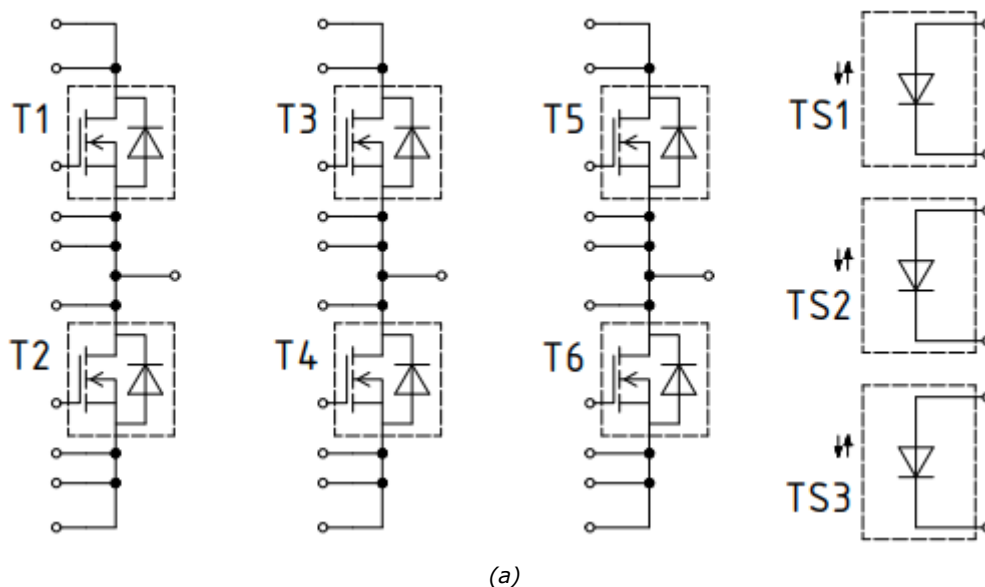
"We are committed to advancing the performance and efficiency of electric vehicle drivetrains through cutting-edge innovation in high-voltage power products," said Stefan Obersriebnig, senior vice president and general manager Automotive High Voltage at Infineon. "Higher operating temperatures provide our customers with more design flexibility and enable them to lower system cost. This innovation will help them to build even more competitive platforms that accelerate the adoption of electric vehicles."

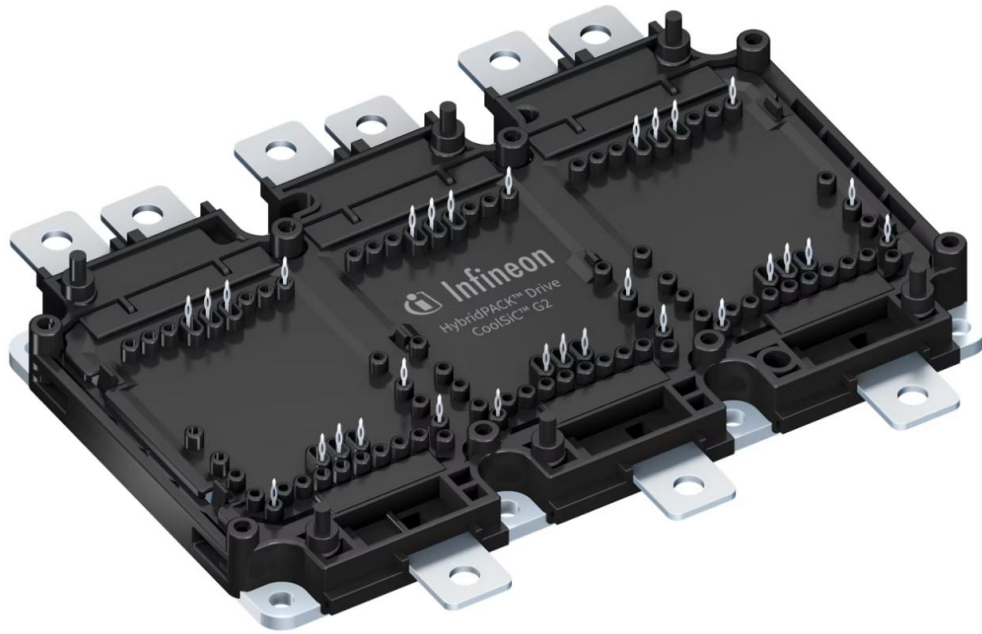
According to the vendor, the increased operating temperature enables up to 15% higher output current compared to existing designs, directly translating into higher inverter power density. At the same time, it maintains identical module size, footprint, and interfaces allowing seamless integration into existing platforms and performance upgrades without costly redesigns or extended development cycles. This drop-in compatibility accelerates time-to-market for next-generation inverter designs while leveraging proven manufacturing and qualification processes.

The extended temperature capability can also significantly reduce cooling system requirements. By tolerating higher junction temperatures, inverter designs can be optimized with smaller or less complex cooling systems, helping to lower system cost, reduce vehicle weight, and improve overall energy efficiency.

In addition to the higher operating temperature, the FS01M9R13A7MA2B module is the first one in the HybridPACK Drive family to come with a 1300-V blocking voltage to improve inverter performance, efficiency and robustness beyond battery voltages of 900 V. Infineon will roll out the 205°C operating capability also across its existing 1200-V SiC module portfolio within the product family.

For more information, see the FS01M9R13A7MA2B product [page](#).





(b)

Figure. The FS01M9R13A7MA2B HybridPACK Drive G2 module with SiC MOSFETs allows continuous operation at junction temperatures up to 205°C, enabling inverter designs to deliver higher peak and continuous output power or to reduce cooling requirements. An internal schematic (a) and package photo (b) are shown here.