

Next-Generation onsemi 1200 V EliteSiC M3S Devices Enhance Efficiency of Electric Vehicles and Energy Infrastructure Applications

New portfolio includes fast-switching MOSFETs and half-bridge power integrated modules with industry's lowest $R_{ds(on)}$ per switch position in industry standard packages

SCOTTSDALE, Ariz. – May 9, 2023 – onsemi (Nasdaq: ON), a leader in intelligent power and sensing technologies, today introduced announced the release of the latest generation of 1200 V EliteSiC silicon carbide (SiC) M3S devices, which enable power electronics designers to achieve best-in-class efficiency and lower system cost. The new portfolio includes EliteSiC MOSFETs and modules that facilitate higher switching speeds to support the growing number of 800 V electric vehicle (EV) on-board charger (OBC) and energy infrastructure applications, such as EV charging, solar and energy storage systems.

Also part of the portfolio, are new EliteSiC M3S devices in half-bridge power integrated modules (PIMs) with industry leading lowest $R_{ds(on)}$ in a standard F2 package. Targeting industrial applications, the modules are ideally suited for DC-AC, AC-DC and DC-DC high power conversion stages. They provide higher levels of integration with optimized direct bonded copper designs to enable balanced current sharing and thermal distribution between parallel switches. The PIMs are designed to deliver high power density in energy infrastructure, EV DC fast charging and uninterruptible power supplies (UPS).

“onsemi’s latest generation of automotive and industrial EliteSiC M3S products will allow designers to reduce their application footprint and system cooling requirements,” said Asif Jakwani, senior vice president and general manager of the Advanced Power Division, onsemi. “This helps designers to develop high power converters with higher levels of efficiency and increased power densities.”

The automotive-qualified 1200 V EliteSiC MOSFETs are tailored for high-power OBCs up to 22 kW and high voltage to low voltage DC-DC converters. M3S technology has been developed specifically for high-speed switching applications and has the best-in-class figure of merits for switching losses.