

onsemi's EliteSiC Silicon Carbide Family Solutions Deliver Industry-Leading Efficiency

New 1700 V EliteSiC devices provide reliable, high-efficiency operation in energy infrastructure and industrial drive applications

LAS VEGAS – Jan. 3, 2023 – onsemi (Nasdaq: ON), a leader in intelligent power and sensing technologies, today introduced “EliteSiC” as the name of its silicon carbide (SiC) family. This week, the company will showcase three new members of the family – the 1700 V EliteSiC MOSFET and two 1700 V avalanche-rated EliteSiC Schottky diodes – at the [Consumer Electronics Show](#) (CES) in Las Vegas. The new devices provide reliable, high-efficiency performance for energy infrastructure and industrial drive applications and highlight onsemi's position as a leader in industrial silicon carbide solutions.

With the 1700 V EliteSiC MOSFET ([NTH4L028N170M1](#)), onsemi delivers higher breakdown voltage (BV) SiC solutions, required for high-power industrial applications. The two 1700 V avalanche-rated EliteSiC Schottky diodes ([NDSH25170A](#), [NDSH10170A](#)) allow designers to achieve stable high-voltage operation at elevated temperatures while offering high efficiency enabled by SiC.

“By providing best-in-class efficiency with reduced power losses, the new 1700 V EliteSiC devices reinforce the high standards of superior performance and quality for products in our EliteSiC family as well as further expand the depth and breadth of onsemi's EliteSiC,” said Simon Keeton, executive vice president and general manager, Power Solutions Group, onsemi. “Together with our end-to-end SiC manufacturing capabilities, onsemi offers the technology and supply assurance to meet the needs of industrial energy infrastructure and industrial drive providers.”

Renewable energy applications are consistently moving to higher voltages with solar systems from 1100 V to 1500 V DC Buses. To support this change, customers require MOSFETs with a higher BV. The new 1700 V EliteSiC MOSFET offers a maximum Vgs range of -15 V/25 V, making it suitable for fast switching applications where gate voltages are increasing to -10V, delivering increased system reliability.

At a test condition of 1200 V at 40 Amps, the 1700 V EliteSiC MOSFET achieves a gate charge (Qg) of 200 nC – which is market-leading compared to equivalent competitive devices that are closer to 300 nC. A low Qg is critical to achieving high efficiency in fast switching, high-power renewable energy applications.

At a BV rating of 1700 V, the EliteSiC Schottky diode devices offer improved margin between the maximum reverse voltage (VRRM) and the peak repetitive reverse voltage of the diode. The new devices also provide excellent reverse leakage performance with a maximum reverse current (IR) of just 40 μ A at 25°C and 100 μ A at 175°C – significantly better than competitive devices that are often rated at 100 μ A at 25°C.

Learn more about onsemi EliteSiC solutions at [onsemi.com](https://www.onsemi.com) or visit us at CES 2023, in Las Vegas, NV, January 5-8.

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About onsemi

onsemi (Nasdaq: ON) is driving disruptive innovations to help build a better future. With a focus on automotive and industrial end-markets, the company is accelerating change in megatrends such as vehicle electrification and safety, sustainable energy grids, industrial automation, and 5G and cloud infrastructure. **onsemi** offers a highly differentiated and innovative product portfolio, delivering intelligent power and sensing technologies that solve the world's most complex challenges and leads the way to creating a safer, cleaner, and smarter world. **onsemi** is recognized as a Fortune 500® company and included in the S&P 500® index. Learn more about **onsemi** at www.onsemi.com.

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Contacts

Stefanie Cuene

Head of Public Relations

onsemi

(602) 315-3778

Stefanie.Cuene@onsemi.com

Parag Agarwal

Vice President - Investor Relations & Corporate Development

onsemi

(602) 244-3437

investor@onsemi.com