

SemiQ Announces New QSiC™ 1200 V SOT-227 SiC Modules Advancing Energy Standards

Ultra-efficient modules support innovative new designs for EVs, medical power supplies, and solar high-power applications.

LAKE FOREST, CALIFORNIA, UNITED STATES, November 15, 2023 /EINPresswire.com/ -- [SemiQ](#), a designer, developer, and global supplier of superior SiC solutions for ultra-efficient, high-performance, and high-voltage applications, announced today that it has expanded its portfolio of QSiC™ Silicon Carbide modules with the launch of a family of 1200V MOSFETs that pairs with or without 1200V SiC Schottky Diodes in a SOT-227 package.



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Dr. Timothy Han, President

Crafted from high-performance ceramics and rigorously engineered to function with unwavering reliability in challenging conditions, the newly introduced SemiQ SiC modules achieve remarkably high performance. This enhanced performance empowers higher power densities and more streamlined design configurations. The QSiC™ modules feature high breakdown voltage (> 1400 V), high-temperature operation ($T_j = 175\text{ }^{\circ}\text{C}$), and low $R_{ds}(On)$ shift over the full operating temperature range while providing industry-leading gate oxide stability and gate oxide lifetime, avalanche (UIS) ruggedness, and extended short-circuit withstand times.

Target markets for the new QSiC™ modules with our existing SOT-227 SiC SBD modules include EV charging, on-board chargers (OBCs), DC-DC converters, E-compressors, fuel cell converters, medical power supplies, energy storage systems,

solar and wind energy systems, data center power supplies, UPS/PFC circuits, and other automotive and industrial power applications.

All of the new QSiC™ modules are tested at wafer-level gate burn-in to provide high-quality gate oxide with stable gate threshold voltage. Besides the burn-in test, which helps to

stabilize the extrinsic failure rate, stress tests such as gate stress, high-temperature reverse bias (HTRB) drain stress, and high humidity, high voltage, high temperature (H3TRB) to ensure requisite industrial grade quality levels.

Dr. Timothy Han, President at SemiQ, said, “We are delighted with the customer input and needs for our new family of QSiC™ high-power modules and thank our SemiQ team who have worked tirelessly to build and qualify our latest QSiC™ modules.”

SemiQ’s new 1200V SOT-227 modules are available in 20mΩ, 40mΩ, 80mΩ SiC MOSFET categories. A table with part numbers is shown above.

Please visit the SemiQ website for specifications and to request samples or volume pricing. See the QSiC™ family of 1200V SOT-227 datasheets for more detail, or start at the [product page here](https://semiq.com/module-packages).

About SemiQ

SemiQ provides high-quality, efficient standard, and custom silicon carbide (SiC) power semiconductors for high-voltage applications. Our product portfolio – including MOSFETs and diodes, in discrete, module, and bare die formats - combines high performance with industry-leading reliability.

For over a decade, SemiQ’s experienced team has worked with customers from various application areas, including solar energy, EV charging, automotive, medical, and energy storage. From the initial concept stage through prototyping and production, we help design, test, and deploy high-density and optimized solutions, providing exceptional service and engineering support to all our partners within the shortest possible timeframe.

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SemiQ

Part Numbers	Circuit Configuration	Ratings, Packages	Rds(on), mΩ
GCMX020B120S1-E1	Single MOSFET w/o SBD	1200V/113A, SOT-227	20
GCMS020B120S1-E1	Single MOSFET w SBD	1200V/113A, SOT-227	20
GCMX040B120S1-E1	Single MOSFET w/o SBD	1200V/57A, SOT-227	40
GCMS040B120S1-E1	Single MOSFET w SBD	1200V/57A, SOT-227	40
GCMX080B120S1-E1	Single MOSFET w/o SBD	1200V/30A, SOT-227	80
GCMS080B120S1-E1	Single MOSFET w SBD	1200V/30A, SOT-227	80

See the QSiC™ family of 1200V SOT-227 datasheets for more detail, or start at the product page here (<https://semiq.com/module-packages>).

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