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Microchip Releases Newest Generation of AEC-Q101 Qualified 700 and 1200V Silicon Carbide (SiC) Schottky Barrier Diode (SBD) for Automotive Applications

Automotive Electronics Council (AEC)-Q101-qualified devices targeted at helping electric vehicles achieve the highest levels of reliability and ruggedness

CHANDLER, Ariz., Oct. 28, 2020 (GLOBE NEWSWIRE) -- As vehicle electrification continues rapid growth worldwide, innovative power technologies such as Silicon Carbide (SiC) are required for high-voltage automotive systems ranging from motors to on-board charging and DC/DC converters. Microchip Technology Inc. (**Nasdaq: MCHP**) today announced its newly-qualified [700 and 1200V SiC Schottky Barrier Diode](#) (SBD) power devices, providing Electric Vehicle (EV) system designers with solutions that meet stringent automotive quality standards across a wide range of voltage, current and package options.

For EV power designers who need to increase system efficiency while maintaining high quality, Microchip's AEC-Q101-qualified devices maximize system reliability and ruggedness and enable stable and lasting application life. The devices' superior avalanche performance allows designers to reduce the need for external protection circuits, reducing system cost and complexity.

"As a long-time supplier to the automotive industry, Microchip's continued expansion of automotive-capable power solutions is leading the transformation of power systems in vehicle electrification," said Leon Gross, vice president of Microchip's discrete product business unit. "Our focus is to provide automotive solutions that help our clients easily transition to SiC while minimizing the risk of quality, supply and support challenges."

Microchip has been a supplier to the automotive industry for more than 25 years. The company's SiC technology, as well as its multiple IATF 16949:2016-certified fabrication facilities, provide high-quality devices through flexible manufacturing alternatives, helping minimize risk in the supply chain.

Through Microchip internal and third-party testing, critical reliability metrics have proven Microchip devices' superior performance when compared to other SiC manufactured devices. Unlike other SiC devices that degrade under extreme conditions, Microchip devices have demonstrated no degradation in performance, increasing the application life. Microchip SiC solutions lead the industry in reliability and ruggedness. The company's SiC SBD ruggedness testing demonstrates 20 percent higher energy withstand in Unclamped Inductive Switching (UIS), and among the lowest leakage currents at elevated temperatures, increasing system life and enabling a more reliable operation.

Microchip's SiC automotive power devices complement its broad portfolio of controllers, analog and connectivity solutions providing designers with total system solutions for electric vehicles and charging stations. Microchip also provides a broad portfolio of 700, 1200 and 1700V SiC SBD and Metal Oxide Silicon Field Effect Transistor (MOSFET) power modules utilizing its newest generation of SiC die. In addition, its dsPIC[®] digital signal controllers deliver performance, low power consumption and flexible peripherals. Microchip's [AgileSwitch[®] family of digital programmable gate drivers](#) further accelerates the process of moving from the design stage to production. These solutions also have applications across renewable, grid, industrial, transportation, medical, data center and aerospace and defense systems.

Development Tools

Microchip's AEC-Q101-qualified SiC SBD devices are supported with SPICE and PLECS simulation models and MPLAB[®] Mindi[™] Analog Simulator. Also available is a PLECS reference design model that uses Microchip's SBDs (1200V, 50A) as part of the power stage — the [Vienna 3-Phase Power Factor Correction \(PFC\) reference design](#).

Pricing and Availability

Microchip's AEC-Q101 qualified 700 and 1200V SiC SBD devices (also available as die for power modules) for automotive applications are available now for volume production orders. For additional information, contact a Microchip sales representative, authorized worldwide distributor, or visit [Microchip's website](#).

Resources

High-res image available through Flickr or editorial contact (feel free to publish):

- Application image: <https://www.flickr.com/photos/microchiptechnology/50465919293>
- Product image: <https://www.flickr.com/photos/microchiptechnology/50466787887>

About Microchip Technology

Microchip Technology Inc. is a leading provider of smart, connected and secure embedded control solutions. Its easy-to-use development tools and comprehensive product portfolio enable customers to create optimal designs which reduce risk while lowering total system cost and time to market. The company's solutions serve more than 120,000 customers across the industrial, automotive, consumer, aerospace and defense, communications and computing markets. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at www.microchip.com.

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