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Microchip Expands Silicon Carbide (SiC) Family of Power Electronics to Provide System Level Improvements in Efficiency, Size and Reliability

700, 1200 and 1700V SBD-based power modules maximize switching efficiency, reduce thermal rise and allow smaller system footprint

CHANDLER, Ariz., March 16, 2020 (GLOBE NEWSWIRE) -- Demand continues to rapidly grow for Silicon Carbide (SiC)-based systems to maximize efficiency and reduce size and weight, allowing engineers to create innovative power solutions. Applications leveraging SiC technology range from electric vehicles and charging stations to smart power grids and industrial and aircraft power systems. Microchip Technology Inc. **(Nasdaq: MCHP)** today announced its expanded portfolio of smaller, lighter and more efficient **SiC power modules.** Together with its broad portfolio of microcontrollers (MCUs) and analog products, Microchip serves the needs of high power system control, gate drive and power stage – supporting customers with total system solutions.

Microchip's SiC family includes commercially-qualified Schottky Barrier Diode (SBD)-based power modules in 700, 1200 and 1700V variants. The new power module family includes various topologies including Dual Diode, Full Bridge, Phase Leg, Dual Common Cathode and 3-Phase bridge, in addition to offering different current and package options. The addition of SiC SBD modules simplifies designs by integrating multiple SiC diode die with the option to mix and match substrate and baseplate material into a single module – which maximizes switching efficiency, reduces thermal rise and allows for a smaller system footprint.

"SiC technology adoption and expansion is a driving force in today's system innovation and Microchip is at the forefront, collaborating with customers across all segments and global regions," said Leon Gross, vice president of Microchip's Discrete Product Group business unit. "Our focus continues to be delivering reliable and innovative solutions. From definition to product release, our SiC technology provides superior reliability and ruggedness, helping power system designers to ensure a long application life with no degradation in performance."

The flexible portfolio of 700, 1200 and 1700V SiC SBD modules utilize Microchip's newest generation of SiC die, which maximizes system reliability and ruggedness and enables stable and lasting application life. The devices' high avalanche performance allows system designers to reduce the need for snubber circuits, and the body diode stability allows designs to use the internal body diode without long-term degradation. Through Microchip internal and third-party testing, critical reliability metrics have proven Microchip devices' superior performance when compared to other SiC manufactured devices.

Development Tools
The company's **30 kW 3-Phase Vienna Power Factor Correction** (PFC), SiC discrete and SP3/SP6LI module drive reference designs/boards provide system developers tools to help reduce development cycle times. The recently added AgileSwitch® family of digital programmable gate drivers further supports accelerating the process of moving from the design stage to production.

Availability
Microchip's 700, 1200 and 1700V SiC SBDs power modules are released and available for order. The complete SiC portfolio is supported by a range of SiC SPICE models, SiC driver board reference designs and a PFC Vienna reference design. Microchip SiC products are available in production volumes along with their associated support offerings. A variety of die and package options are available for the SiC MOSFETs and SiC diodes.

For additional information including pricing contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's SiC product portfolio **website**. To purchase products mentioned here contact a Microchip authorized distributor.

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

- Application image**:** https://www.flickr.com/photos/microchiptechnology/49580982513/in/dateposted/

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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