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Radiation-Hardened MOSFET Qualified for Commercial and Military Satellites and Space Power Solutions

Microchip's M6 MRH25N12U3 silicon transistor withstands extreme space environments and extends reliability of power circuitry

CHANDLER, Ariz., June 08, 2021 (GLOBE NEWSWIRE) -- Power supplies in space applications operate in environments that require enhanced radiation technology to withstand extreme particle interactions and solar and electromagnetic events. These events degrade space-based systems and disrupt operations. To meet this requirement, Microchip Technology Inc. **(Nasdaq: MCHP)** today announced the qualification of its **M6 MRH25N12U3** radiation-hardened 250V, 0.21 Ohm Rds(on), metal–oxide–semiconductor field-effect transistor (MOSFET) for commercial aerospace and defense space applications.

Microchip's radiation-hardened M6 MRH25N12U3 MOSFET provides the primary switching element in power conversion circuits including point-of-load converters, DC-DC converters, motor drives and controls and general-purpose switching. The MOSFET withstands the harsh environments of space, extends reliability of power circuitry and meets all requirements of MIL-PRF19500/746 with enhanced performance. Microchip completed testing for Defense Logistics Agency (DLA) review and qualification, for the device's sourcing in the U.S. military supply chain (expected JANSR2N7593U3 certification in June 2021).

The M6 MRH25N12U3 MOSFET is designed for future satellite system designs as well as serving as an alternate source in existing systems.

The device can withstand total ionizing dose (TID) up to 100 krad and 300 krad and single event effects (SEE) with linear energy transfer (LET) up to 87 MeV/mg/cm^2. It provides 100-percent wafer lot radiation hardness assurance in validation tests.

"Microchip's entry into the radiation-hardened MOSFET market reflects our long-term commitment to support our customer base and provide aerospace and defense OEMs and integrators with high-performance solutions and continuous supply," said Leon Gross, vice president of Microchip's Discrete Product Group business unit. "In addition to our proven quality and reliability, the M6 MRH25N12U3 provides a value pricing option for developers and offers them full application support."

The M6 MRH25N12U3 is part of Microchip's broad portfolio of aerospace, defense and space technology that includes field programmable gate arrays (FPGAs), microprocessor integrated circuits (ICs), linear ICs, power devices, discretes and power modules that integrate both SiC and Si power solutions. Together with its microcontrollers (MCUs) and analog products, Microchip serves the needs of high-power system control, gate drive and power stage – supporting developers worldwide with total system solutions.

While continuing to introduce new technology, Microchip teams with space manufacturers and integrators to secure supply chains for existing and future systems.

For additional information, view **Microchip's commercial aerospace and military product portfolio**.

Availability
For information including pricing, contact a Microchip sales representative. To purchase products mentioned here visit Microchip's **purchasing portal**.

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

- Application image: **https://www.flickr.com/photos/microchiptechnology/51174565511/**
- Product image: **https://www.flickr.com/photos/microchiptechnology/51174779323/**

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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