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Microchip Completes Radiation-Hardened Power MOSFET Family to MIL-PRF-19500/746 and Achieves JANSF 300 Krad Capability

Designed for extreme environments and conditions, radiation-hardened MOSFETs are available from 100 Krad to 300 Krad Total Ionizing Dose

CHANDLER, Ariz., April 17, 2025 (GLOBE NEWSWIRE) -- The JANS qualification represents the highest level of screening and acceptance requirements, ensuring the superior performance, quality and reliability of discrete semiconductors for aerospace, defense and spaceflight applications. Microchip Technology **(Nasdaq: MCHP)** today announces its completion of its family of **radiation-hardened (rad-hard) power MOSFETs** to the MIL-PRF-19500/746 slash-sheet specification and the achievement of JANSF qualification for its JANSF2N8587U3, 100V N-channel MOSFET to 300 Krad (Si) Total Ionizing Dose (TID).

Microchip's JANS series of rad-hard power devices is available in voltage ranges from 100–250V to 100 Krad (Si) TID, with the family expanding to higher Radiation Hardness Assurance (RHA) levels, starting with the JANSF2N7587U3 at 300 Krad (Si) TID. The JANS RH MOSFET die is available in multiple package options including a plastic package using the MIL-qualified JANSR die, providing a cost-effective power device for New Space and Low Earth Orbit (LEO) applications. The ceramic package is hermetically sealed and developed for total dose and Single-Event-Environments (SEE).

The devices are designed to meet the MIL-PRF19500/746 standard with enhanced performance, making them excellent options for applications that demand high-reliability components capable of withstanding the harsh environments of space and extending the reliability of power circuitry.

"Meeting the stringent specifications required for rad-hard MOSFETs is extremely challenging, and Microchip is pleased to achieve this development milestone by leveraging its proprietary rad-hard by design process and technology," said Leon Gross, corporate vice president of Microchip's discrete products group. "Our advanced technology provides our aerospace and defense customers with highly reliable and cost-effective solutions that meet the growing demand of the market and their applications."

The JANSF and JANSR RH power MOSFETs serve as the primary switching elements in power conversion circuits, including point-of-load converters, DC-DC converters, motor drives and controls, and general-purpose switching. With low $R_{DS(ON)}$ and a low total gate charge, these power MOSFETs offer improved energy efficiency, reduced heat generation and enhanced switching performance when compared to similar devices on the market.

Microchip offers a broad portfolio of high-reliability solutions designed for aerospace and defense including Radiation-Tolerant (RT) and Radiation-Hardened (RH) MCUs, FPGAs and Ethernet PHYs, power devices, RF products, timing solutions, as well as discrete components from bare die to system modules. Additionally, Microchip offers a wide range of components on the QPL to better serve its customers. To learn more about Microchip's aerospace and defense solutions, visit the **web page**.

Development Tools

There are Spice Models available for our JANS MOSFETs, offering additional resources for software simulation and design optimization.

Pricing and Availability

The JANSF and JANSR devices are available in limited sampling upon request. For additional information contact a **Microchip sales representative**.

Resources

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

- Application image: **www.flickr.com/photos/microchiptechnology/54422442566/sizes/l**
- Video overview: **https://youtube.com/shorts/lOvt_mhbJpM**

About Microchip Technology:
Microchip Technology Inc. is a leading provider of smart, connected and secure embedded control and processing 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 over 100,000 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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