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Radiation-Tolerant DC-DC 50-Watt Power Converters Provide High-Reliability Solution for New Space Applications

The LE50-28 power converters are available in nine variants with single- and triple-outputs for optimal design configurability

CHANDLER, Ariz., May 07, 2024 (GLOBE NEWSWIRE) -- The Low-Earth Orbit (LEO) market is rapidly growing as private and public entities alike explore the new space region for everything from 5G communication and cube satellites to IoT applications. There is an increased demand for standard space grade solutions that are reliable, cost effective and configurable. To meet this market need, Microchip Technology **(Nasdaq: MCHP)** today announces a new family of **Radiation-Tolerant (RT) LE50-28 isolated DC-DC 50W power converters** available in nine variants with single- and triple-outputs ranging from 3.3V to 28V.

The off-the-shelf LE50-28 family of power converters are designed to meet MIL-STD-461. The power converters have a companion EMI filter and offer customers ease of design to scale and customize by choosing one or three outputs based on the voltage range needed for the end application. This series provides flexibility to parallel up to four power converters to reach 200-Watts.

Designed to serve 28V bus systems, the LE50-28 isolated DC-DC power converters can be integrated with Microchip's PolarFire® FPGAs, microcontrollers and LX7720-RT motor control sensor for a complete electrical system solution. Designers can use these high-reliability radiation-tolerant power solutions to significantly reduce system-level development time.

"The new family of LE50-28 devices enable our customers to succeed in new space and LEO environments where components must withstand harsh conditions," said Leon Gross, vice president of Microchip's discrete products group. "Our off-the-shelf products offer a reliable and cost-effective solution designed for the durability our customers have come to expect from Microchip."

The LE50-28 power converters offer a variety of electrical connection and mounting options. The LE50 series is manufactured with conventional surface mount and thru-hole components on a printed wiring board. This distinction in the manufacturing process can reduce time to market and risks associated with supply chain disruptions.

The LE50-28 family offers space-grade radiation tolerance with 50 Krad Total Ionizing Dose (TID) and Single Event Effects (SEE) latch-up immunity of 37 MeV·cm2/mg linear energy transfer.

Microchip offers a wide range of components to support the new space evolution with sub-QML strategy to bridge the gap between traditional Qualified Manufacturers List (QML) components and Commercial-Off-The-Shelf (COTS) components. Designed for new space applications, sub-QML components are the optimal solution that combines the radiation tolerance of QML components with our space flight heritage that permits lower screening requirements for lower cost and shorter lead times.

Microchip's extensive space solutions include FPGAs, power and discrete devices, memory products, communication interfaces, oscillators, microprocessors (MPUs) and MCUs, offering a broad range of options across qualification levels, and the largest qualified plastic portfolio for space applications. For more information, visit our **space solutions webpage.**

Support and Resources

The new family of LE50-28 devices are supported by comprehensive analysis and test reports including worst case analysis, electrical stress analysis and reliability analysis.

Pricing and Availability

The LE50-28 single-output and LE50-28 triple-output are now available. For additional information and to purchase, contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's Purchasing and Client Services website, **www.microchipdirect.com**.

Resources

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

- Application image: **www.flickr.com/photos/microchiptechnology/53332596878/sizes/l**
- Video link: **https://www.youtube.com/watch?v=XjXePfpjNa4**

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 approximately 125,000 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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