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Microchip Unveils New High-Density Power Module for AI at the Edge Applications

The MCPF1412 power module with integrated I2C and PMBus® interfaces for flexible configuration and monitoring

CHANDLER, Ariz., April 24, 2025 (GLOBE NEWSWIRE) -- AI at the edge is driving increased integration and power consumption, requiring advanced power management solutions for industrial automation and data center applications. Microchip Technology (**Nasdaq: MCHP**) today announces the [MCPF1412](#), a highly efficient and fully integrated point-of-load 12A power module with a 16V V_{IN} buck converter and support for I²C and PMBus® interfaces.

The MCPF1412 power module is designed to deliver superior performance and reliability, ensuring efficient power conversion and reduced energy loss. Its compact form factor of 5.8 mm × 4.9 mm × 1.6 mm and innovative Land Grid Array (LGA) package significantly reduce the required board space by over 40% compared to traditional discrete solutions. This reduction in size, coupled with enhanced reliability and minimized PCB switching and RF noise, positions the MCPF1412 as a leading industry device.

“The MCPF1412 is highly compatible with our FPGAs and PCIe® solutions, providing a comprehensive solution for Microchip customers,” said Rudy Jaramillo, vice president of Microchip’s analog power interface division. “This innovative solution minimizes space usage by reducing chip placements when combined with other Microchip devices.”

The MCPF1412M06 is a versatile device that offers significant flexibility for configuration and system monitoring through the I²C and PMBus interfaces. Additionally, it supports standalone operation without a digital interface, allowing designers to easily configure output voltages using simple resistor divider adjustments and monitor the system via the Power Good output.

Other key features of the MCPF1412 include multiple diagnostic functions such as over-temperature, over-current and over-voltage protection for improved performance and reliability. The operating temperature range is T_J -40°C to +125°C. An on-board embedded EEPROM is available for programming the default power-up configuration.

Microchip offers a wide range of DC-DC power modules with input voltages from 5.5-70V, available in ultra-compact, rugged and thermally enhanced packaging to improve high power density. To learn more about Microchip’s power modules, visit the [web page](#). For more information about the MCPF1412 power module, please visit the [product web page](#).

Development Tools

The MCPF1412 is supported by the EV37R94A Evaluation Board and GUI to help developers evaluate their design.

Pricing and Availability

The MCPF1412 is available for \$5.10 each in 10,000-unit quantities. 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/54429465685/sizes/

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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Editorial Contact:

Kim Dutton
480-792-4386
kim.dutton@microchip.com

Reader Inquiries:

1-888-624-7435



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