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Maximize System Performance with Microchip's Dual-mode Power Monitoring IC

Single IC offers industry-leading accuracy for real-time power measurement of AC and DC power supplies

CHANDLER, Ariz., July 30, 2018 (GLOBE NEWSWIRE) -- In systems that use both AC and DC power, the implementation of dual-mode power monitoring traditionally requires multiple ICs to ensure superior performance and accuracy. Growing applications such as solar inverters, smart lighting and cloud servers often use both modes to maintain safe operation, with AC as the main power source and DC as backup or vice versa. To optimize performance and ease development of these systems, Microchip Technology Inc. (NASDAQ: MCHP) today released a flexible dual-mode power monitoring IC that measures both AC and DC modes with industry-leading accuracy of 0.1 percent error across a wide 4000:1 range. Power calculations and event monitoring are included with a single IC, reducing bill of materials cost and firmware development time. For additional information, visit: **www.microchip.com/MCP39F511A**

The MCP39F511A power monitoring IC is a highly integrated device that addresses the growing need for more accurate power measurements in high-performance designs. To simplify calibration procedures and support most accuracy requirements, two 24-bit delta-sigma Analog-to-Digital Converters (ADCs) with 94.5 dB of signal-to-noise ratio plus distortion (SINAD) performance and a 16-bit calculation engine are included. Suitable for a range of consumer, Internet of Things (IoT) and industrial applications, the MCP39F511A automatically senses power supply types and switches between AC and DC modes, optimizing measurement results. The device also helps developers troubleshoot issues with an on-chip EEPROM that logs critical events, as well as an integrated low-drift voltage reference and internal oscillator to reduce implementation costs.

Other benefits of using the MCP39F511A include its flexibility and ease of implementation. The device provides standard power calculations such as active, reactive and apparent power, active and reactive energy, root-mean-square (RMS) current and voltage, line frequency and power factor, which enable designers to easily add highly accurate power monitoring functions to end applications with minimal firmware development. To further simplify development efforts, the MCP39F511A includes advanced features such as auto-save and auto-load of power quantities to and from the EEPROM at power loss or start, ensuring that measurement results are never lost if power is disrupted unexpectedly. Event monitoring of various power conditions also enhances preventative system maintenance and enables developers to better manage power consumption.

"Power monitoring has become more prevalent in growing markets such as smart cities and smart homes as developers look to monitor product performance and improve energy usage," said Bryan Liddiard, vice president of Microchip's Mixed-signal and Linear Products

Division. “The MCP39F511A provides customers with a simplified development path and the ability to monitor both AC and DC power supplies with industry-leading accuracy.”

Development Tools
The device is supported by the MCP39F511A Power Monitor Demonstration Board (ADM00667), a fully functional single-phase power and energy monitoring system. The system calculates and displays active power, reactive power, RMS current, RMS voltage, active energy (both import and export) and four-quadrant reactive energy. It connects easily through USB to the “Power Monitor Utility Software” that offers automated control to allow users to easily evaluate all system configuration settings.

For volume purchases, Microchip’s Application Center of Excellence offers custom firmware devices based on the calibration of customers’ hardware, helping save calibration cost and time.

Pricing and Availability
The MCP39F511A is available for $1.80 each in 10,000-unit quantities. The MCP39F511A Power Monitor Demonstration Board (ADM00667) is available for $150 each.

For additional information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip’s website. To purchase products mentioned in this press release, go to Microchip’s full-service channel **microchipDIRECT** or contact one of Microchip’s authorized distribution partners.

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

- Application image: **https://www.flickr.com/photos/microchiptechnology/43594166841/**
- Chip shot: **https://www.flickr.com/photos/microchiptechnology/43405555452/**

About Microchip Technology
Microchip Technology Inc. (NASDAQ:MCHP) is a leading provider of microcontroller, mixed-signal, analog and Flash-IP solutions, providing low-risk product development, lower total system cost and faster time to market for thousands of diverse customer applications worldwide. 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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