

Microchip Halves the Power Required to Measure How Much Power Portable Devices Consume

Power- and battery-conscious designs can operate longer under typical conditions through more accurate and energy-efficient power monitoring

CHANDLER, Ariz., Dec. 03, 2025 (GLOBE NEWSWIRE) -- Battery-operated devices and energy-restricted applications must track and monitor power consumption without wasting power in the process. To solve this challenge, Microchip Technology (**Nasdaq: MCHP**) today announces two digital power monitors that consume half the power of comparable solutions based on typical operating conditions at 1024 samples per second. The [PAC1711 and PAC1811 power monitors](#) achieve this efficiency milestone while also providing real-time system alerts for out-of-limit power events and a patent-pending step-alert function for identifying variations in long-running averages.

The 42V, 12-bit single-channel PAC1711 and 16-bit PAC1811 monitors are housed in 8- and 10-pin Very Thin Dual Flat, No-Lead (VDFN) packages, respectively, that are pin- and footprint-compatible with the popular Small Outline Transistor (SOT23)-8 package. This compatibility simplifies second-sourcing for developers, while streamlining upgrades and integration into existing systems.

“Until now, portable devices and a variety of energy-constrained applications have needed to burn a significant amount of valuable power to measure how much they are consuming,” said Keith Pazul, vice president of Microchip’s mixed-signal linear business unit. “Unlike many existing solutions, Microchip’s power monitors function as independent ‘watchdog’ peripherals, eliminating the need for the MCU to handle power monitoring tasks. These monitors allow the MCU or host processor to remain dormant until a significant power event occurs such as needing an LCD screen to power on.”

The PAC1711 and PAC1811 power monitors’ step-alert capability keeps a running average of voltage and current values. If there is a significant, user-defined variation, it will notify the MCU to act on it. The devices keep a rolling average, and any new sample can trigger an alert. A slow-sample pin option is available, which can delay the power usage sampling to every eight seconds and further conserve power.

An accumulator register in the power monitor can be used to manage logistical items, track system battery aging or time to recharge, and provide the short-term historical data for long-term power usage that the MCU can be programmed to act on. Both current monitor integrated circuits sense bus voltages from 0 to 42 volts and can communicate over an I²C® interface. They are well-suited for first- or second-source options in computing, networking, AI/ML and E-Mobility applications.

Development Tools

The evaluation board is a Click board™ compatible with the MikroElektronika's mikroBUS™ standard for host motherboard sockets. The Click board is used to evaluate the features and performance of the devices. Additionally, a Linux® driver can be found on the product pages, providing the basic functionality and access to commonly used registers for making power measurements. Microchip also provides a generic C library for the PAC1711 and PAC1811 which includes examples of how they can be used with different MCUs from Microchip.

Pricing and Availability

The PAC1711 is available now in VDFN-8 (PAC1711T-1E/3P) or VDFN-10 (PAC1711T-2E/9Q) packages. The PAC1811 is available now in VDFN-8 (PAC1811T-1E/3P) or VDFN-10 (PAC1811T-2E/9Q) packages. Pricing begins at \$0.58 each in 10,000-unit quantities for the PAC1711 VDFN-8 option. The price of the evaluation board (part #PAC1711-Click) is \$15.00 each and is available now.

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/54931331357/sizes/o/
- PAC1711 video: <https://youtu.be/OnERFQFImhE>
- PAC1811 video: <https://youtu.be/8sp-qkliYaA>

About Microchip Technology:

Microchip Technology Inc. is a broadline supplier of semiconductors committed to making innovative design easier through total system solutions that address critical challenges at the intersection of emerging technologies and durable end markets. Its easy-to-use development tools and comprehensive product portfolio supports customers throughout the design process, from concept to completion. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support and delivers solutions across the industrial, automotive, consumer, aerospace and defense, communications and computing markets. For more information, visit the Microchip website at www.microchip.com.

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Editorial Contact:
Brian Thorsen
480-792-7182
brian.thorsen@microchip.com

Reader Inquiries:
1-888-624-7435

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