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Flexible, Integrated Digitally Enhanced Power Analog Controller Performs Power Conversion, Measurement and Management

The Single-Chip MCP19122/3 Solution Offers Industry-Leading Flexibility

CHANDLER, Ariz., May 09, 2017 (GLOBE NEWSWIRE) -- A new Digitally Enhanced Power Analog (DEPA) buck controller for DC-DC power conversion is now available from Microchip Technology Inc. (NASDAQ:MCHP). This device offers more flexibility than any other analog control architecture on the market today. The single-chip solution controls DC-DC converters and is capable of accepting a high-voltage input (up to 42V) while simultaneously regulating a wide output voltage range (0.3V to 16V without any external components or drivers). For more information, visit: www.microchip.com/MCP19123.

The internal PIC® microcontroller in the MCP19122/3 can dynamically adjust the operating frequency, over- and under-voltage lockout thresholds, current limits, soft-start, voltage or current output setpoints and maximum duty cycle. This level of configurability offers many application benefits. For example, the MCP19123 can dynamically adjust the voltage output to meet USB Power Delivery requirements, while also adjusting the output over-voltage lockout to maintain tight protection limits corresponding to each output voltage level.

The MCP19123 buck controller offers many unique capabilities, including a programmable differential input amplifier used to optimize performance and minimize system voltage error. This configurability allows for a wide output voltage range commonly seen in USB power and battery charger applications. Improving integration in larger systems, the device can synchronize to an external clock and voltage reference, or provide the internal system clock and reference to other devices for synchronization.

In server or communications equipment, this allows for seamless power up and accurate tracking of power consumption throughout the board. For high-power applications, multiple outputs can operate in parallel providing system redundancy for improved system reliability. Combined with an on-board programmable diagnostic and fault detection capability that is unmatched in the industry, the MCP19122/3 is ideal for high-performance intelligent power applications.

This device also offers excellent accuracy for an adjustable output power supply. A MCP19122/3 DC-DC converter implementation can maintain an initial 0.5 percent or better output voltage accuracy. In addition to the tight voltage regulation, the MCP19122/3 is designed to deliver industry-leading current measurement by using a lossless inductor current sense method with specialized internal measurement calibrations. The device can directly accept a common mode signal up to 16V and report the load current to within 5

percent accuracy for most applications, with an emulated average current mode control for hardware-based cycle-by-cycle current limiting.

“Microchip is one of the few companies that truly understands both analog power control and digital controllers,” said Rich Simoncic, vice president of Microchip’s Analog, Power and Interface Division. “The novel combination of digital management and analog power control methods in our DEPA portfolio allows for many application benefits that no other company can offer.”

Development Support
The devices are supported by Microchip’s suite of programming and development tools including MPLAB® X Integrated Development Environment (IDE) and the MPLAB XC8 complier.

Pricing and Availability
The MCP19122 is available today in a 4 x 4 QFN package for sampling and in volume production starting at $2.94 each in 10,000 unit quantities. The MCP19123 is available today in a 5 x 5 QFN package starting at $3.17 each in 10,000 unit quantities.

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 Microchip’s easy-to-use online sales 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):

- Chip graphic: www.flickr.com/photos/microchiptechnology/33731738763/sizes/l
- Block diagram: www.flickr.com/photos/microchiptechnology/34156707630/sizes/l

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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