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New Digitally Enhanced Power Analog Controllers from Microchip Offer Digital Power Supply Flexibility with Easy Analog Control Loops

MCP19118/9 Provide Simple Analog PWM Control and Configurable MCU in Compact Circuit Solution; Industry's First PMBus™ Compatible Controller with Up to 40V Operation

CHANDLER, Ariz.--(BUSINESS WIRE)-- Microchip Technology Inc. (NASDAQ: MCHP), a leading provider of microcontroller, mixed-signal, analog and Flash-IP solutions, today announced its latest Digitally Enhanced Power (DEPA) controllers—the **MCP19118** and **MCP19119** (MCP19118/9). They provide simple yet effective analog PWM control for DC-DC synchronous buck converters up to 40V, with the configurability of a digital MCU. And they are the industry's first devices to combine 40V operation and PMBus™ communication interfaces. These features enable quick power-conversion circuit development with an analog control loop that is programmable in the integrated 8-bit PIC® MCU core's firmware. This integration and flexibility is ideal for power-conversion applications, such as battery-charging, LED-driving, USB Power Delivery, point-of-load and automotive power supplies.

Along with the rapidly growing popularity of digitally controlled power supplies, due to their configurability for a variety of operating conditions and topologies, power system designers also have an increasing need for the ability to report telemetry and conduct two-way communication (typically for monitoring and fault reporting), via standard communication interfaces such as PMBus. Additionally, the recently released USB charging specifications (USB Power Delivery and the USB type C connector) include variable charging voltages, which allow for rapid device charging, but add potentially difficult hardware requirements.

By integrating a supervisory microcontroller, the MCP19118/9 devices can create programmable power supplies. Key system settings—such as switching frequency (100 kHz to 1.6 MHz), current limits and voltage setpoints—can be adjusted on the fly during operation by issuing write commands to the registers in the device. One design can then be reused for additional applications, using firmware updates to change the configuration, which minimizes design, production and inventory requirements across multiple platforms. Additionally, the integrated MCU core can be used to monitor other parts of the application to sequence startup operations; intelligently manage faults, under-voltage or brown-out conditions; perform housekeeping functions; adjust power outputs in response to load requirements (such as battery charging or USB port power); and assisting with the module's external interfaces (monitoring or delivering signals to the user or system). With integrated linear regulators, PWM generators, ADCs, MOSFET drivers, analog error amplifiers and control-loop compensation, the MCP19118/9 devices provide a very compact circuit solution. Properly implemented, this system is capable of high conversion efficiency and excellent transient response for reduced system power losses, smaller heatsinks and longer battery

life in portable applications. These DEPA devices can also provide data over the I^{2}C™ interface, using customized SMBus or PMBus compatible commands.

"This is another example of the award-winning innovation found in Microchip's digitally enhanced power analog product family," said Bryan J. Liddiard, marketing vice president of Microchip's Analog and Interface Products Division. "No other semiconductor company offers this level of flexibility and configurability in its DC-DC controllers, and no other product solution provides this level of functionality for power-conversion, battery-charging or LED-drive applications."

Development Support

MCP19118/9 programming assistance is available via the **MCP19111 Design Analyzer** and the **MCP19111 Graphical User Interface Plug-in** for MPLAB® X IDE. Both of these software tools are available today, via a free download from the "Documentation & Software" section of the above links. Additionally, **Application Note AN1541** describes how to use these tools.

Microchip's full suite of standard development tools also supports these MCP19118/9 DEPA controllers, including the MPLAB X Integrated Development Environment (IDE), PICkit™ 3 (part # PG164130), PICkit Serial Analyzer (part #DV164122), and the MPLAB XC8 Compiler.

Pricing & Availability

The **MCP19118** and **MCP19119** are both available now for sampling and volume production, with prices starting at $2.92 each in 5,000-unit quantities. The MCP19118 is offered in a 4x4 mm, 24-pin QFN package, while the MCP19119 is available in a 5x5 mm, 28-pin QFN package.

For additional information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip's Web site at **http://www.microchip.com/get/MME2**. To purchase products mentioned in this press release, go to **microchipDIRECT** or contact one of Microchip's authorized distribution partners.

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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 **http://www.microchip.com/get/LT49**.

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