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Synchronous Boost Regulator From Microchip Enables Longer-Lasting Battery Applications

Regulator Features Start-up Voltage of 0.65V, Enabling Use With Even a Single, Completely Drained Alkaline, NiMH or NiCd Battery Cell

CHANDLER, Ariz.--(BUSINESS WIRE)-- Microchip Technology Inc. (NASDAQ: MCHP), a leading provider of microcontroller and analog semiconductors, today announced the MCP1640 Synchronous Boost Regulator, which features an operating voltage down to 0.35V, quiescent current as low as 19 microamperes and shutdown current of less than one microampere. With integrated dual FET transistors and output currents up to 350 milliamperes, the 500 kHz MCP1640 regulator enables compact, longer-lasting battery applications in the consumer electronics market (e.g., electric razors, toothbrushes, GPS devices and portable music players), among others. A video is available through editorial contact or YouTube (feel free to embed on your Web site): http://www.microchip.com/get/0S9Q.

The MCP1640 regulator's operating voltage of down to 0.35V and start-up voltage of 0.65V allows use with even a single, completely drained Alkaline, NiMH or NiCd battery cell. A PWM/PFM option enables the device's low quiescent and shutdown currents, and provides up to 96% efficiency, allowing for longer battery run times. The regulator's two integrated FET transistors reduce component count, resulting in smaller overall designs.

"The MCP1640 addresses customer needs to reduce the number of batteries required for their applications, while providing long run times and compact design sizes," said Bryan J. Liddiard, vice president of Microchip's Analog and Interface Products Division.

Mikhail Voroniouk, senior product marketing engineer with Microchip's Analog and Interface Products Division, added, "The MCP1640 Boost regulator continues Microchip's leadership in low-power products, complementing our eXtreme Low Power PIC(R) microcontrollers, especially in applications that must operate from a single-cell battery."

Development Tool Support

Microchip also announced the MCP1640 Synchronous Boost Converter Evaluation Board today (part # MCP1640EV-SBC, $19.99). The board uses the MCP1640 step-up converter and demonstrates the minimum number of components for applications powered by one-, two- or three-cell Alkaline or NiCd/NiMH batteries; and one-cell Li-Ion or Li-Polymer batteries. The board also shows example PCB layouts for the MCP1640 in 6-pin SOT-23 and 2 mm x 3 mm DFN packages. It enables designers to evaluate the MCP1640's wide input voltage (0.35 to 5.5V) and low start-up voltage (0.65V), as well as three common output voltages--2.0, 3.0 and 5.0V. When disabled, the MCP1640 disconnects the path from input to output for a true disconnect. The board can be purchased today, at

http://www.microchip.com/get/GDDJ. Additionally, Application Note AN1311, "Single-Cell Input Boost Converter Design" is available on Microchip's Web site at http://www.microchip.com/get/U8LR.

Packaging, Pricing & Availability

The MCP1640 Synchronous Boost Regulator is available in 6-pin SOT-23 and 2 mm x 3 mm DFN packages, for $0.41 each, in 10,000-unit quantities. Samples are available today, at http://www.microchip.com/get/5P8S, and volume-production-quantity orders can be placed today, at http://www.microchip.com/get/GDDJ. For further information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip's Web site at http://www.microchip.com/get/D3GN.

About Microchip Technology

Microchip Technology Inc. (NASDAQ: MCHP) is a leading provider of microcontroller and analog semiconductors, providing low-risk product development, lower total system cost and faster time to market for thousands of diverse customer applications worldwide. Headquartered in Chandler, Ariz., Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at http://www.microchip.com/get/N5T9.

Photos and Block Diagram available through editorial contact, or Flickr (feel free to publish):

MCP1640 Photo

http://www.microchip.com/get/TTGD

MCP1640 Block Diagram

http://www.microchip.com/get/STL6

Photo of MCP1640EV-SBC

http://www.microchip.com/get/XBLJ

Video available through YouTube or editorial contact. Feel free to embed this video on your Web site:

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