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Microchip's DC/DC Converter Reference Designs Enable Greater Energy Efficiency Through Digital Power

Free Reference Designs Based on dsPIC33 'GS' Family of Digital Signal Controllers Make it Easy to Lower Product Cost, Increase Power Output and Improve Efficiency

CHANDLER, Ariz.--(BUSINESS WIRE)-- Microchip Technology Inc. (NASDAQ: MCHP), a leading provider of microcontroller, analog and Flash-IP solutions, today announced two new digitally controlled DC/DC converter reference designs with advanced, high-efficiency topologies. Complete documentation--including software, Gerber files, MATLAB(R) models, Webinars and application notes--can be downloaded for free today from Microchip's Web site at http://www.microchip.com/get/BRN2, for both of the following reference designs:

- Quarter Brick DC/DC Converter Reference Design
- DC/DC LLC Converter Reference Design

DC/DC converter designers are faced with a number of challenges to optimize a set of contrasting requirements in the design process, including efficiency, power density (i.e., size of the converter) and cost. Microchip's two new reference designs provide advanced digital techniques that enable designers to optimize these requirements quickly and easily. Additionally, these reference designs are applicable to a diverse set of end products in both board-mounted and external DC/DC converters, for the server, telecom, industrial, medical and aerospace markets.

Both reference designs are implemented using Microchip's dsPIC33F 'GS' series of digital-power Digital Signal Controllers (DSCs), which provide fully digital control of the power-conversion and system-management functions. As demonstrated in these reference designs, the dsPIC33F 'GS' DSCs allow designers to easily and cost effectively create products using advanced topologies, such as LLC resonant, which lower switching losses and boost efficiencies as high as 95%.

"Microchip's new reference designs enable our customers to develop the most advanced, fully digital DC/DC converters quickly and economically," said Sumit Mitra, vice president of Microchip's High Performance Microcontroller Division.

Mitra continued, "By using the features in the dsPIC33F 'GS' series of DSCs, designers can improve the efficiency and lower the cost of their DC/DC converter products, while lowering carbon footprints and easing the burden on the worlds strained power grids."

Both reference designs support intelligent control of the power converter and serial system communication, enabling remote control and monitoring. The designs also include full fault protection, and can be easily configured for operating specifications and custom features, via the fully programmable dsPIC33F 'GS' DSC.

Additional Key Features

Quarter Brick DC/DC Converter Reference Design:

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--  Quarter Brick Size
--  Phase Shift Full Bridge (PSFB) Topology
--  200W Output Power
--  Input Voltage 36-76 Vdc, Output Voltage 12V
--  Greater than 93% Efficiency
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DC/DC LLC Converter Reference Design:

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--  LLC Resonant Topology
--  200W Output Power
--  Input Voltage 350-420 Vdc, Output Voltage 12V
--  Greater than 95% Efficiency
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Availability

Complete documentation for both DC/DC Reference Designs--including software, Gerber files, MATLAB models, Webinars and application notes--can be downloaded for free today from Microchip's Web site at http://www.microchip.com/get/BRN2.

About Microchip Technology

Microchip Technology Inc. (NASDAQ: MCHP) is a leading provider of microcontroller, 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/SD36.

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Tags / Keywords: Digital Power, DC/DC Converter, Quarter Brick, LLC, Power Conversion, SMPS, Reference Design, dsPIC, Digital Signal Controller, Power Supply, Green

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