May 12, 2015

Microchip's New dsPIC33EP "GS" Family is Optimized for Digital Power Applications

Digital Signal Controllers Feature Higher Performance, More Integration, Lower Power, Smaller Footprints and Live Update Capability

CHANDLER, Ariz., May 12, 2015 /PRNewswire/ -- Microchip Technology Inc. [NASDAQ: MCHP], a leading provider of microcontroller, mixed-signal, analog and Flash-IP solutions, today announced the 14-member **dsPIC33EP "GS" family** of Digital Signal Controllers (DSCs). The dsPIC33EP "GS" family delivers the performance needed to implement more sophisticated non-linear, predictive and adaptive control algorithms at higher switching frequencies. These advanced algorithms enable power supply designs that are more energy efficient and have better power supply specifications. Higher switching frequencies enable the development of physically smaller power supplies that offer higher densities and lower costs. Compared with the previous generation of DSCs, the new dsPIC33EP "GS" devices provide less than half the latency, when used in a three-pole three-zero compensator, and consume up to 80% less power in any application.

This new dsPIC33EP "GS" family includes advanced features such as Live Update Flash capability, which is especially helpful for high-availability or "always-on" systems. Live Update can be used to change the firmware of an operating power supply, including the active compensator calculation code, while maintaining continuous regulation. Variants from this new digital-power-optimized DSC family are available in an industry's-smallest, 4 x 4 mm UQFN package for space-constrained designs.

View a brief presentation: **http://www.microchip.com/Presentation-051215a**

Other key features of this family include up to five 12-bit ADCs with as many as 22 ADC inputs, providing total throughput of 16 Mega samples per second (Msps) with a 300 ns ADC latency. The dsPIC33EP "GS" devices include 12-bit DACs for each of the four analog comparators, for higher-precision designs. The two on-chip programmable gain amplifiers can be used for current sensing and other precision measurements. Including these

advanced analog amplifiers on the device reduces the number of external components required, thereby saving cost and board space. These features, combined with the overall high performance of the dsPIC33EP "GS" family, make it well suited for a wide range of applications, including the following examples: **computer & telecom** (e.g., AC/DC and DC/DC power supplies), **industrial** (e.g., solar inverters, LED lighting, HID lighting, battery chargers, projectors and welders) and **automotive** (e.g., LED and HID headlights, DC/DC converters), among others.

"Customer adoption of our existing dsPIC33 digital power families has been outstanding, with design wins in a wide range of power-conversion products, globally," said Joe Thomsen, vice president of Microchip's MCU16 Division. "The new dsPIC33EP "GS" family builds upon that success by offering more performance and integrated features, allowing next-generation designs to achieve higher efficiency and more compact form factors."

Development Support

The dsPIC33EP "GS" family is supported by Microchip's **MPLAB® Starter Kit for Digital Power** (part # DM330017-2, $129.99), which allows customers to explore using the new dsPIC33EP "GS" family in popular digital power-conversion topologies.

Microchip's new **Digital Compensator Design Tool** helps engineers calculate the optimum compensator coefficients required to maximize the performance of their designs. This free tool, combined with Microchip's **compensator software libraries** and many **royalty-free dsPIC33 reference designs**, make it easier than ever to design digital power-conversion applications.

Microchip also partnered with Biricha Digital to offer in-depth **digital power design workshops** that help analog power supply designers, as well as embedded system programmers, leverage the capabilities of full digital control in their designs.

Pricing & Availability

The 14 dsPIC33EP "GS" family members are available in various packages, from 28 to 64 pins. For a complete list of product variants and package options, click on this **product variant table**. All of these new DSCs are available today for sampling and volume production, starting at $1.10 each in high volume.

For additional information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip's Web site at **http://www.microchip.com/dsPIC33EP64GS506-051215a**. To purchase products mentioned in this press release, go to **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 **http://www.microchip.com/Chip-Graphic-051215a**
- Block Diagram: **http://www.microchip.com/Block-Diagram-051215a**
- Product Variant Table: **http://www.microchip.com/Product-Table-051215a**
- MPLAB Starter Kit for Digital Power: **http://www.microchip.com/Kit-Photo-051215a**

Follow Microchip:

- RSS Feed for Microchip Product News: **http://www.microchip.com/RSS-051215a**
- Twitter: **http://www.microchip.com/Twitter-051215a**
- Facebook: **http://www.microchip.com/Facebook-051215a**
- YouTube: **http://www.microchip.com/YouTube-051215a**

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/Homepage-051215a**.

Tags / Keywords: Digital Power, SMPS, Power Supply, Power Inverter, Solar Power, Solar Inverter, LED Lighting, HID Lighting, Energy Conversion, DC/DC Converter

Editorial Contact:
Eric Lawson
480-792-7182
eric.lawson@microchip.com

Reader Inquiries:
1-888-624-7435
http://www.microchip.com/dsPIC33EP64GS506-051215a

Logo - https://photos.prnewswire.com/prnh/20141115/158835LOGO