February 25, 2014

Microchip Expands Low Pin Count, General-Purpose 8-bit PIC® Microcontroller Family for Safety-Critical Applications

Peripheral-Rich MCUs Feature 8- and 14-pin Packages With eXtreme Low Power Technology, Adding Design Flexibility and Simplification While Reducing Cost

CHANDLER, Ariz.--(BUSINESS WIRE)-- Microchip Technology Inc. (NASDAQ: MCHP), a leading provider of microcontroller, mixed-signal, analog and Flash-IP solutions, today announced from Embedded World an expansion of its 8-bit PIC® microcontroller (MCU) portfolio, with the peripheral-rich, low pin count **PIC16(L)F161X** family. These new MCUs expand the offering of Microchip's Core Independent Peripherals (CIP), which offload timing-critical and core-intensive tasks from the CPU, allowing it to focus on other application tasks. Additionally, this family integrates fault-detecting hardware features to assist engineers in developing safety-critical applications.

View a brief presentation: **http://www.microchip.com/get/95AG**

The PIC16(L)F161X family offers a variety of key features, including the Windowed Watchdog Timer (WWDT), which monitors proper software operation within predefined limits, improving reliability. The Cyclic Redundancy Check with Memory Scan (CRC/SCAN) detects and scans memory for corrupted data. This family also includes a Hardware Limit Timer (HLT), which detects hardware fault conditions (stall, stop, etc.), simplifying closed-loop-control applications. These peripherals make it easier for designers to implement safety standards (e.g., UL & class B) or fail-safe operation.

In addition to the HLT, the PIC16(L)F161X features the unique, 24-bit Signal Measurement Timer (SMT). The SMT performs high-resolution measurements of any digital signal, in hardware, resulting in more precise and accurate measurements. This is ideal for speed control, range finding and RPM indicators. Both timers are designed to reduce design complexity, by eliminating the need for additional code and external components.

This high level of integration makes these MCUs appealing to a broad range of applications, such as monitoring and fail-safe systems (e.g., industrial machinery, power supplies), and products with variable-speed motor control (e.g., fans, home appliances). Additionally, these are the first PIC MCUs to offer hardware Zero Cross Detect (ZCD), which is essential for designers looking to simplify TRIAC control and increase system robustness by minimizing the EMI caused by switching transients. A Complementary Waveform Generator (CWG), comparators, 10-bit ADC, 8-bit DAC and Capture/Compare PWM are also integrated, to enable design flexibility and overall cost reduction. The CWG can generate complementary waveforms with fine control of key parameters, such as polarity, dead band and emergency-shutdown states. It provides a cost-effective solution for half-bridge and full-bridge drive

control, which saves both board space and component cost when driving FETs in motor-control and power-conversion applications. All of these features are provided in small-form-factor packages, ranging from 8 to 14 pins.

“The implementation of safety and control in an embedded system often requires extensive code and additional components,” said Steve Drehobl, vice president of Microchip’s MCU8 Division. “The PIC16F161X family helps alleviate that complexity, by integrating specialized and flexible features that speed designs while reducing system cost.”

Development Support

The PIC16(L)F161X family is supported by Microchip’s standard suite of world-class development tools, including the **MPLAB® ICD 3** (part # DV164035, $189.99) and **PICkit™ 3** (part # PG164130, $44.95) programmer/debuggers, along with the **PICkit™ 3 Low Pin Count Demo Board** (part # DM164130-9, $25.99).

Pricing & Availability

The PIC12(L)F1612 MCUs are available today for sampling and volume production in 8-pin PDIP, SOIC, and 3 mm x 3 mm DFN and UDFN packages. The PIC16(L)F1613 MCUs are also available today in 14-pin PDIP, SOIC, TSSOP, and 4 mm x 4 mm UQFN and QFN packages. Pricing for the family starts at $0.53 each, in 10,000-unit quantities.

For additional information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip’s Web site at **http://www.microchip.com/get/VDLM**. 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/get/UNV8**
- Block Diagram: **http://www.microchip.com/get/0LAX**

Follow Microchip:

- RSS Feed for Microchip Product News: **http://www.microchip.com/get/NCR6**
- Twitter: **http://www.microchip.com/get/08MA**
- Facebook: **http://www.microchip.com/get/1U3R**
- YouTube: **http://www.microchip.com/get/WE2Q**

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/FR3L**.

Tags / Keywords: **Microcontroller**, **8 bit**, **MCU**, **Window Watchdog Timer**, **CRC**, **Timer**, **Zero Cross Detect** , **Motor Control**, **Class B**, **Core Independent Peripherals**

Microchip Technology Inc.
Editorial Contact:
Terri Thorson
480-792-4386
terri.thorson@microchip.com
or
Reader Inquiries:
1-888-624-7435
http://www.microchip.com/get/VDLM

Source: Microchip Technology Inc.