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Microchip Brings Cost-Effective Advanced Analog and Digital Integration to 8-bit PIC® Microcontrollers

New MCUs Feature On-Chip 12-bit ADC, 8-bit DAC, Op Amps, High-Speed Comparators, eXtreme Low Power Technology; 16-bit PWM Offers Industry's Highest Level of Advanced Control

CHANDLER, Ariz.--(BUSINESS WIRE)-- Microchip Technology Inc. (NASDAQ: MCHP), a leading provider of microcontroller, analog and Flash-IP solutions, today announced from DESIGN West in San Jose the expansion of its 8-bit **PIC16F(LF)178X** enhanced Mid-range core microcontroller (MCU) family to include advanced analog and integrated communication peripherals, such as on-chip 12-bit Analog-to-Digital Converters (ADCs), 8-bit Digital-to-Analog Converters (DACs), operational amplifiers and high-speed comparators, along with EUSART (including LIN), I^2C™ and SPI interface peripherals. The MCUs also feature the industry's best level of advanced PWM control and accuracy via the new Programmable Switch-Mode Controllers (PSMCs). This combination of features enables higher efficiency and performance, along with cost and space reductions in applications such as closed-loop control in power supplies and lighting. The "LF" versions of the MCUs feature **eXtreme Low Power Technology**, for active and sleep currents of just 32 µA/MHz and 50 nA, respectively, helping to extend battery life and reduce standby current consumption. Low power consumption and advanced analog and digital integration make the general-purpose PIC16F(LF)178X MCUs ideal for LED lighting, battery management, digital power supply, motor control and other applications.

To view a brief presentation on this product family, click **here**: **http://www.microchip.com/get/M3EC**.

Environmental concerns and "green" initiatives have led to the rise of new energy-consumption legislation around the world. The PIC16F(LF)178X MCUs enable designers to create better products that consume less power. Microchip's enhanced Mid-range 8-bit core brings more performance, with 32 MHz operation, automatic context save for faster interrupt handling, more efficiency in the instruction set with better code density, plus faster and more direct-port control capabilities. Available in 28- and 40-pin packages, the MCUs' advanced analog integration includes an on-chip 12-bit ADC for very small voltage measurements, as well as enabling **mTouch™** capacitive sensing; and an 8-bit DAC for high-resolution voltage references. Also included on-chip are fast analog comparators with 50 nS response time, Capture Compare Peripherals, and I^2C™, SPI and EUSART interfaces for communications. Additionally, the MCUs feature a 32 MHz internal oscillator, 2 - 8K Words (3.5 - 14K Bytes) of Flash, 128 – 512 Bytes of RAM and 256 Bytes of data EEPROM. The PSMC peripherals are 16-bit Pulse-Width Modulators (PWMs) with 64 MHz operation and advanced control capabilities.

“The PIC16F(LF)178X family integrates considerable analog peripherals along with a versatile 8-bit PIC MCU,” said Steve Drehobl, vice president of Microchip’s Security, Microcontroller and Technology Development Division. “This high analog integration enables designers to bring a new level of intelligence and flexibility to an ever-expanding assortment of applications, including those in the power-supply, power-management, motor-control and lighting markets, among others.”

Development Tool Support

Microchip’s full suite of development tools support the PIC16F(LF)178X MCUs, including the **MPLAB® Integrated Development Environment** (**IDE**), and **PICkit™ 3** (part # PG164130, $44.95), **MPLAB REAL ICE™** (part # DV244005, $499.98) and **MPLAB ICD 3** (part # DV164035, $189.99) debuggers/programmers. Additionally, the **MPLAB XC8 Compiler for 8-bit PIC® MCUs** is available. All of these tools can be ordered today, at **http://www.microchip.com/get/C77X**.

Packaging, Pricing & Availability

The PIC16F(LF)1782/3/4/6/7 MCUs are available in 28-pin SOIC, SPDIP, 6 x 6 mm QFN, and 4 x 4 mm UQFN; as well as 40-pin PDIP, TQFP, 8 x 8 mm QFN, and 5 x 5 mm UQFN packages. Pricing starts at $1.18 each, in 10,000-unit quantities. **Samples** can be ordered today, at **http://www.microchip.com/get/CDGA**. **Volume-production quantities** can be ordered today, at **http://www.microchip.com/get/C77X**. For further information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip’s Web site at **http://www.microchip.com/get/MWKF**. To purchase products mentioned in this press release, go to **microchipDIRECT** or contact one of Microchip’s authorized distribution partners.

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, Ariz., Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the **Microchip Web site** (**http://www.microchip.com/get/UW40**).

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

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Presentation: http://www.microchip.com/get/M3EC

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