May 8, 2013

Microchip Expands 8-bit PIC® Microcontroller Family with Intelligent Analog Integration

New MCUs Feature On-Chip 12-bit ADC, Op Amps, High-Performance 16-bit PWMs and High-Speed Comparators

CHANDLER, Ariz.--(BUSINESS WIRE)-- Microchip Technology Inc. (NASDAQ: MCHP), a leading provider of microcontroller, mixed-signal, analog and Flash-IP solutions, today announced an expansion of its 8-bit **PIC16F178X** enhanced Mid-Range core microcontroller (MCU) family with increased Flash memory densities, intelligent analog and digital peripherals, such as on-chip 12-bit Analog-to-Digital Converters (ADCs), 16-bit PWMs, 8-bit and 5-bit Digital-to-Analog Converters (DACs), operational amplifiers, and high-speed comparators with 50 ns response time, along with EUSART (including LIN), I^2C™ and SPI interface peripherals. The PIC16F178X are the first PIC® MCUs to implement the new Programmable Switch Mode Controller (PSMC), which is an advanced 16-bit Pulse-Width Modulator (PWM) with 64 MHz operation and high-performance capabilities. This combination of features enables higher efficiency and performance, along with cost and space reductions. The new MCUs also feature **eXtreme Low Power (XLP)** 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 in combination with advanced analog and digital integration make the PIC16F178X MCUs ideal for **LED** and other lighting applications, battery management, digital power supplies, motor control and general-purpose applications.

Available in 28- and 40-pin packages, the MCUs' intelligent analog integration paired with Core Independent Peripherals, inclusive of the PSMC, DACs, Op Amps, high-speed comparators and 12-bit ADC, enable self-sustaining smart control loops with minimal CPU intervention. This allows for optimal application control while freeing the CPU to provide incremental application value, such as system health monitoring, communications, or human-interface control. Additionally, the MCUs feature a 32 MHz internal oscillator, 2 - 16K Words (3.5 - 28K Bytes) of Flash, 256 - 2K Bytes of RAM and 256 Bytes of data EEPROM.

"The PIC16F178X integrates intelligent analog and advanced Core Independent Peripherals, enabling high-performance capabilities within a low cost and versatile 8-bit PIC MCU, lending itself to numerous applications including power supplies, power management, motor control and lighting applications," said Steve Drehobl, vice president of Microchip's MCU8 Division. "This level of integration and capability really emphasizes that it is not necessarily all about the core CPU, but rather the capabilities that can be cost effectively enabled."

Development Support

Initial evaluation and development of the PIC16F178X family can quickly begin with the **F1 PSMC 28-pin Evaluation Board Platform** (part # 164130-10, $19.99). Additionally, the

PIC16F178X family is supported by Microchip's standard suite of world-class development tools, including the **PICkit™ 3** (part # PG164130, $44.95), **MPLAB® REAL ICE™** (part # DV244005), $499.98), **MPLAB ICD 3** (part # DV164035, $189.99) debuggers/programmers, and **MPLAB XC8 Compiler**.

Pricing & Availability

The PIC16(L)F1782/3/4/6/7/8/9 MCUs are available now for sampling and volume production 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.

For additional information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip's Web site at **http://www.microchip.com/get/T2VS**. To purchase products mentioned in this press release, go to **microchipDIRECT** or contact one of Microchip's authorized distribution partners.

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Tags / Keywords: intelligent analog, **MCU**, **motor control**, **comparators**, **low power digital power supplies**, **LED lighting**, **power control**, **PSMC**, **power applications**

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Source: Microchip Technology Inc.