May 10, 2017

New PIC32 Family of 32-Bit Microcontrollers Optimized for Motor Control and General Purpose Applications

Microchip's PIC32MK Family is Packed with Analog Peripherals, Dual USB Capabilities and Support for up to Four CAN 2.0 Ports

CHANDLER, Ariz., May 10, 2017 (GLOBE NEWSWIRE) -- The newest family of PIC32 microcontrollers (MCUs) is now available from Microchip Technology Inc. (NASDAQ:MCHP). The PIC32MK family features four highly integrated MCUs for precision dual Motor Control applications (PIC32MK **MC**) and eight MCUs packed with serial communication modules for General Purpose applications (PIC32MK **GP**). All MC and GP devices feature a 120 MHz 32-bit core that supports Digital Signal Processor (DSP) instructions. Additionally, to ease control algorithm development, a double-precision floating point unit is integrated into the MCU core enabling customers to utilize floating-point based modeling and simulation tools for code development. For more information about Microchip's PIC32MK family visit: www.microchip.com/pic32mk.

To increase efficiency and decrease the number of discrete devices needed in motor control applications, the high-performance PIC32MK MC devices combine 32-bit processing with advanced analog peripherals such as a quad 10 MHz op amp, high-speed comparators and motor-control optimized Pulse Width Modulation (PWM) modules. The devices also have Analog-to-Digital Converter (ADC) modules capable of total throughput of 25.45 Mega-Samples Per Second (MSPS) in 12-bit mode or 33.79 MSPS in 8-bit mode, enabling higher precision in motor control applications. The devices come with up to 1 MB Live Update Flash, 4 KB of EEPROM and 256 KB SRAM.

"The PIC32MK family represents a continuation in the Microchip motor control lineup enabling traditional 8- and 16-bit customers to move to a 32-bit MCU for motor control while maintaining support through classic Microchip development tools," said Rod Drake, vice president of Microchip's MCU32 business unit. "The family also has general purpose MCUs with an extensive array of serial communications modules ideally suited for the industrial space."

With class-leading connectivity integration, the PIC32MK devices have up to four independent CAN 2.0 ports as well as six Universal Asynchronous Receiver/Transmitter (UART) modules, Local Interconnect Network (LIN) 1.2 and six Serial Peripheral Interface (SPI) or Inter-IC Sound (I^2S) modules. Additionally, two complete full-speed USB modules are included on select devices enabling simultaneous USB host and USB device to be active at the same time. A single MCU can be used to communicate to multiple bus protocols for reduced design complexity and cost, making PIC32MK devices ideal for dual-USB applications such as digital audio or CAN-based implementations in the automotive and industrial markets.

Development Support
As with all PIC32 devices, the PIC32MK family is supported by Microchip's MPLAB® Harmony Integrated Software Framework, MPLAB X Integrated Development Environment (IDE), MPLAB XC32 Compiler for PIC32, MPLAB ICD 3 In-Circuit Debugger and MPLAB REAL ICE™ In-Circuit Emulation system.

Several additional tools are available including:

- PIC32MK GP Connectivity Developers Kit, part number DM320106, for $120.00
- PIC32MK Motor Control Plug-In Module (PIM), microchipDIRECT part number MA320024 ($25.00) compatible with dsPICDEM MCLV-2 Low Voltage Motor Control Kit part number DM330021-2 ($199.99).

The PIC32MK devices have peripheral block support for MathWorks® MATLAB® and Simulink® as well as open-source-based Scilab® for customers interested in numerical computation computing environments for engineering and scientific applications.

Pricing and Availability
Devices in the PIC32MK family are offered with up to 1 MB Flash and 256 KB SRAM in 64- and 100-pin TQFP and QFN packaging options. All devices are available today in volume production starting at $4.50 in 10K quantities.

For additional information, contact any Microchip sales representative or authorized worldwide distributor. To purchase products mentioned in this press release, go to Microchip's easy-to-use online sales channel 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: www.flickr.com/photos/microchiptechnology/33861756225/sizes/l
- Block diagram: www.flickr.com/photos/microchiptechnology/33477365590/sizes/l

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 www.microchip.com.

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Source: Microchip Technology Incorporated