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Microchip Technology Enables New Class of Motor Control Applications with New Low-Cost Family of Digital Signal Controllers

dsPIC33FJ12MC Family Offers Platform for Field-Oriented Control Algorithms; Brings Next Level of Performance, Low Noise and Power Efficiency via 6x6 mm, $1.99 DSCs

CHANDLER, Ariz.--(BUSINESS WIRE)--

Microchip Technology Inc. (NASDAQ: MCHP), a leading provider of microcontroller and analog semiconductors, today announced the dsPIC33FJ12MC family--the Company's lowest-priced motor control Digital Signal Controller (DSC) family, with prices starting at $1.99 each in 10,000-unit quantities. These new 40 MIPS DSCs provide an excellent platform for advanced motor control algorithms, such as Field-Oriented Control (FOC), enabling the next level of high performance, low noise and power efficiency to motor control applications. (Microchip's FOC source code can be downloaded for free, via Application Note AN1078, at www.microchip.com.) Additionally, the dsPIC33FJ12MC family serves space-constrained motor control applications via 20- and 28-pin packages as small as 6x6 mm.

With energy regulations in place in many countries, the demand for advanced control of efficient variable-speed motors is rapidly growing. Microchip's dsPIC(R) DSC motor control families have dedicated hardware, and the Company offers a significant selection of free software, which allows many applications to take advantage of advanced, energy-efficient motor control technology. The dsPIC33FJ12MC family consists of Microchip's lowest priced motor control DSCs, which enables the next price-sensitive tier of applications, such as consumer appliances and toys, to take advantage of advanced motor technology.

"DSC-powered motor control is shifting into high gear, as new low price points, advanced motor control algorithms and small size converge to give our customers an edge in power efficiency, performance and overall cost structure," said Sumit Mitra, vice president of Microchip's Digital Signal Controller Division. "Our approach is to create the silicon, tools and algorithms necessary to permit customers with wide-ranging motor control expertise to have access to advanced motor control technologies and to excel in their markets."

Specific motor control hardware features of the dsPIC33FJ12MC family include a Motor Control PWM with two independent clock sources for advanced motor control algorithms and active power factor correction using a single DSC, and an Analog-to-Digital Converter (ADC) optimized for motor control applications. Together with the on-chip quadrature encoder interface, these hardware features provide a highly integrated, cost-effective motor control solution. The on-chip ADC and Motor Control PWM are also very useful for power-conversion and LED-lighting applications.

Microchip is the only company to offer seamless migration between its 16-bit microcontrollers and DSP-enabled DSCs, by providing pin, peripheral, software and tool compatibility. Being able to easily migrate among the 92 dsPIC(R) DSCs and PIC24 microcontrollers in Microchip's rapidly growing 16-bit portfolio accelerates time to market and provides a path to quickly respond to requirement changes during the design process, while providing the scalability to serve many applications.

"With their dsPIC DSCs and PIC24 MCUs, Microchip is the only company on the planet with truly unified DSP and MCU product lines," said Will Strauss, president of Forward Concepts. "The dsPIC33 family gives MCU people an easy migration path to DSP performance."

The dsPIC33FJ12MC family also features Peripheral Pin Select, which allows designers to remap digital I/O to optimize board layout--enabling smaller boards, less noise and the use of a lower pin count DSC. Other key features of the new family include:

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--  40 MIPS performance in 6x6 mm packages

--  12 Kbytes of Flash and 1 Kbyte of RAM

--  ADC w/ up to 6 channels, and user-selectable 10-bit or 12-bit
    mode (10-bit mode enables simultaneous sampling, eliminating
    lag time between samples)

--  1 UART, 1 SPI and 1 I2C(TM) Port

Development Support
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Within Microchip's free MPLAB(R) Integrated Development Environment, high-level resources are added in a microcontroller-friendly way to allow the utilization of DSC features with minimal effort. These features include Microchip's Visual Device Initializer, which can generate initialization code in a few clicks, and the Motor Control GUI, which can be used to quickly tune dsPIC DSC motor control libraries to a specific motor type--all without immersion in DSP theory. Finally, the new 16-bit 28-pin starter board (part # DM300027) can be used for development with any of Microchip's 28-pin 16-bit microcontroller and DSCs.

Availability

Both members of the dsPIC33FJ12MC family are available today for general sampling and volume production, with prices starting at $1.99 each in 10,000-unit quantities. The dsPIC33FJ12MC201 is available in 20-pin SOIC and SDIP packages. The dsPIC33FJ12MC202 is available in 28-pin QFN, SOIC and SDIP packages. For additional information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip's Web site at www.microchip.com/16bit.

Microchip Customer Support

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About Microchip Technology

Microchip Technology Inc. (NASDAQ: MCHP) is a leading provider of microcontroller and analog semiconductors, 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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