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Microchip Technology Announces Six New DSCs with 16-bit Audio DAC; Significantly Decreases Cost and Size for Embedded Audio

World's First Digital Signal Controllers With Integrated Audio DAC; Industry's Smallest Footprint DSCs

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

Microchip Technology Inc. (NASDAQ:MCHP), a leading provider of microcontroller and analog semiconductors, today announced six new 28- and 44-pin 16-bit dsPIC(R) Digital Signal Controllers (DSCs) with a dual-channel, 100ksps, 16-bit audio Digital-to-Analog Conversion (DAC) module for price- or size-conscious embedded system designers who require improved audio performance or wish to add audio playback to existing embedded applications.

These dsPIC DSCs are DMA-enabled with 2 Kbytes of dual-port RAM to eliminate CPU overhead during data transfer. All feature 16 Kbytes RAM, including dual-port RAM. The dsPIC33 devices are offered with 64 and 128 Kbytes of Flash memory, which can be used to store instructions or data. Microchip's DSCs feature full DSP capability for applications that wish to process, compress or decompress audio data. Most instructions and all DSP instructions execute in one cycle.

Microchip software libraries are available that optimize the use of on-chip DSP resources, so designers can add DSP-enabled features without delving into DSP technology for the remainder of their development task. For example, several industry-standard speech-compression libraries can be downloaded for evaluation and development at no charge, and can be licensed for production for a low cost or free, depending on the library. Speech-compression libraries available today include G.711 (64 kbps), ADPCM G.726A (16-40 kbps) and SPEEX (8 kbps).

Also included on the new dsPIC DSCs are two analog comparators, a user-selectable 10- or 12-bit ADC, and a real-time clock and calendar. Serial peripherals include 2 UARTs, 2 SPIs, I2C(TM) and CAN2.0B. A Parallel Master/Slave Port (PMP) enables parallel connection to external memory, communication peripherals or displays. The devices also include Peripheral Pin Select (PPS), which permits digital peripherals to be remapped to other pins to achieve layout efficiency or access to pin-multiplexed peripherals. Cyclic Redundancy Checking (CRC) hardware is also included on-chip. All devices are offered in Industrial (-40 degrees to +85 degrees C) and Extended (-40 degrees to +125 degrees C) temperature ranges.

Four of the new dsPIC33 DSCs also offer a CODEC interface supporting the I2S and AC'97 protocols. Two of the new DSCs also offer motor control and power conversion peripherals, including a 3-phase PWM, a power factor correction PWM and two quadrature encoder interfaces.

Development Tools, Availability and Pricing

Volume production for all six of the new dsPIC33 controllers listed below is expected to be in place by the end of second quarter. Prices range from $3.67 to $4.18 each in 10,000-unit quantities. In addition to being compatible with the free MPLAB(R) IDE, which serves all of Microchip's MCUs and DSCs, these dsPIC33 families are supported by existing Microchip development tools, such as the MPLAB C30 C compiler, the MPLAB ICD 2 for programming and debugging, and the MPLAB PM3 universal device programmer. Microchip also created the Explorer 16 development board (part # DM240001) in support of all its 3.3V 16- and 32-bit controllers. Additionally, Microchip offers a low cost 28-pin starter development board (part # DM300027) for all 16-bit 28-pin devices.

Packaging options for all six of the new dsPIC33 DSCs are listed below. For additional information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip's Web site at www.microchip.com/16bit.

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-- 28-Pin SOIC, QFN and SPDIP Packages
    -- dsPIC33FJ64GP802 (64 KB Flash - General Purpose)
    -- dsPIC33FJ128GP802 (128 KB Flash - General Purpose)

-- 44-Pin TQFP and QFN Packages
    -- dsPIC33FJ64GP804 (64 KB Flash - General Purpose)
    -- dsPIC33FJ128GP804 (128 KB Flash - General Purpose)
    -- dsPIC33FJ64MC802 (64 KB Flash - Motor Control and Power
        Conversion)
    -- dsPIC33FJ128MC802 (128 KB Flash - Motor Control and Power
        Conversion)
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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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