# Microchip Expands Digital Signal Controller Portfolio for Digital Power Applications

Microchip Technology Inc., a leading provider of microcontroller and analog semiconductors, today announced the expansion of its 16-bit dsPIC Digital Signal Controller (DSC) portfolio for digital power-conversion applications. These new DSCs provide up to four times the memory, compared to Microchip's existing SMPS & Digital Power Conversion families. Additionally, these flexible DSCs can be configured for a variety of topologies, giving power-supply designers the complete freedom to optimize for specific product applications. The eight new DSCs offer up to 18 channels of Pulse-Width-Modulators (PWMs) with 1 nanosecond resolution, enabling an unprecedented number of completely independent digital control loops.

Implementing high-speed, precision digital control loops for digital power conversion applications requires a high-performance DSP engine, along with specialized digital power peripherals. Microchip's 16-bit dsPIC33F 'GS' Series DSCs provide on-chip peripherals specifically designed for high-performance, digital power supplies. On-chip digital power peripherals include high-speed PWMs, ADCs and analog comparators. The newly expanded dsPIC33F 'GS' family supports applications such as induction cooking, uninterruptable power supplies, solar and pure sine-wave inverters, intelligent battery chargers, power factor correction, HID lighting, fluorescent lighting, LED lighting, and AC-DC and DC-DC power converters.

"Microchip further extends its industry leadership with this family of digital-power DSCs," said Sumit Mitra, vice president of Microchip's High Performance Microcontroller Division. "These new devices enable a broader set of digital-power applications that require more communication and control of more complex systems."

The eight new dsPIC33F 'GS' series digital-power DSCs enable digital control loops with 12 to 18 high-speed, 1 nanosecond (ns) resolution PWMs and one or two 10-bit, on-chip ADCs, providing 2 to 4 Million samples per second (MSPS) for low latency and high-resolution control. They range from 64 to 100 pins and 32 to 64 KB Flash memory. These DSCs feature interactive peripherals that both minimize the intervention of the processor and are able to handle the real-time needs of high-speed current-mode control.

Development Tools

The dsPIC33F "GS" series DSCs are supported by the MPLAB Integrated Development Environment, MPLAB C Compiler for dsPIC DSCs, MPLAB SIM 30 Software Simulator, MPLAB ICD 3 In-Circuit Debugger and MPLAB REAL ICE™ In-Circuit Emulation System.

For advanced development, Microchip's Explorer 16 Development Board (part # DM240001, $129.99) can be used with the Buck/Boost Converter PICtail Plus Daughter Board (part # AC164133, $ 89.99). A new dsPIC33F "GS" series Plug-in Module (part # MA330024, $25.00) is available today for the Explorer 16, which enables development with this new DSC family; specifically, the 100-pin dsPIC33FJ64GS610.

Pricing, Packaging & Availability

These eight new DSCs start at $2.93 each in 10,000-unit quantities. The dsPIC33FJ32GS406, dsPIC33FJ64GS406, dsPIC33FJ32GS606 and dsPIC33FJ64GS606 are available in 64-pin TQFP and 9x9 mm QFN packages. The dsPIC33FJ32GS608 and dsPIC33FJ64GS608 are available in an 80-pin TQFP package. The dsPIC33FJ32GS610 and dsPIC33FJ64GS610 are available in a 100-pin TQFP package. Samples are available today from Microchip's Web site at http://www.microchip.com/get/R4BV [1], and volume-production orders can be placed today at http://www.microchip.com/get/E4P9 or via authorized Microchip distributors.

For additional information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip's Web site at http://www.microchip.com/get/5SWG [2].

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 http://www.microchip.com/get/K0HF [3].

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