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The Next Evolutionary Step in Customizable Logic, Microchip Releases PIC16F13145 Family of MCUs

New Configurable Logic Block (CLB) module offers tailored hardware solutions and helps eliminate the need for external logic components

CHANDLER, Ariz., Jan. 24, 2024 (GLOBE NEWSWIRE) -- To address the expanding need for increasing levels of customization in embedded applications, Microchip Technology **(Nasdaq: MCHP)** is offering a tailored hardware solution with the launch of its **PIC16F13145 family** of microcontrollers (MCUs). Outfitted with a new Core Independent Peripheral (CIP)—the Configurable Logic Block (CLB) module—the MCUs enable the creation of hardware-based, custom combinational logic functions directly within the MCU. Because of its integration into the MCU, the CLB allows designers to optimize the speed and response time of embedded control systems, eliminating the need for external logic components and reducing Bill of Materials (BOM) cost and power consumption. The process is further simplified by a graphical interface tool, which helps synthesize custom logic designs using the CLB. The PIC16F13145 family is designed for applications utilizing custom protocols, task sequencing or I/O control to manage real-time control systems in the industrial and automotive sectors.

“The Configurable Logic Cell (CLC) Module has been integrated into Microchip MCUs for more than a decade and the new CLB module is the next step in the evolution of our customizable logic offering, enabling this family of MCUs to be utilized in applications that are typically the domain of standalone programmable logic devices,” said Greg Robinson, vice president of Microchip’s 8-bit microcontroller business unit. “Few single-chip solutions in today’s market address embedded engineers’ design challenges like the PIC16F131 MCU family. The new MCUs handle custom logic functions, minimize power consumption, simplify designs and can accommodate changing design requirements.”

Since the CLB’s operation is not dependent on the CPU clock speed, it improves the system’s latency and provides a low-power solution. The CLB can be used to make logical decisions while the CPU is in sleep mode, further reducing power consumption and software reliance. The PIC16F13145 MCUs also include a fast 10-bit Analog-to-Digital Converter (ADC) with built-in computation, an 8-bit Digital-to-Analog (DAC) converter, fast comparators, 8- and 16-bit timers and serial communication modules (I2C and SPI) to allow many system-level tasks to be performed without the CPU. The family will be available in various packages from 8 pins up to 20 pins.

Development Tools
The PIC16F13145 family of MCUs is supported by the MPLAB® Code Configurator (MCC), a free software plug-in within MPLAB X IDE which provides an easy GUI-based interface to configure the device and on-board peripherals, including the CLB. This interface reduces development time as the desired custom logic can be designed schematically with options

for an advanced user to utilize Hardware Description Language (HDL). The new synthesizer is available in two options: integrated into MCC and online at **logic.microchip.com**. The **PIC16F131 Curiosity Nano Evaluation Kit** offers complete support for designing with the PIC16F131 family and these features coordinate for a seamless embedded development experience and reduced time to market.

Pricing and Availability
PIC16F131 MCUs are available starting at $.47 each in 10,000-unit quantities. For additional information and to purchase, contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's Purchasing and Client Services website, **www.microchipdirect.com**.

Resources
High-res images available through Flickr or editorial contact (feel free to publish):

- Application image: **https://www.flickr.com/photos/microchiptechnology/53451201638/sizes/l/**
- Block diagram: **https://www.flickr.com/photos/microchiptechnology/53450157287/sizes/o/**
- Tool photo: **https://www.flickr.com/photos/microchiptechnology/53451411614/sizes/l/**

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