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Functional Safety, Cybersecurity Protection and AUTOSAR Compatibility Features Now Available on 32-bit MCU based on Arm® Cortex®-M0+ Core

The PIC32CM JH microcontroller is a 512KB Flash, 5V, Dual CAN FD device that delivers premium features typically only available on more expensive, higher performance devices

CHANDLER, Ariz., Sept. 15, 2022 (GLOBE NEWSWIRE) -- Manufacturers of electronic systems ranging from vehicles to home appliances are moving towards automating and connecting end applications, spurring the need for industry standards related to functional safety and cybersecurity protection to ensure their products operate safely and securely. To provide manufacturers with an MCU solution equipped with components that meet ISO 26262 functional safety and ISO/SAE 21434 cybersecurity engineering standards, Microchip Technology Inc. **(Nasdaq: MCHP)** today announces the PIC32CM JH microcontroller (MCU). This is the industry's first MCU-based on the Arm® Cortex®-M0+ architecture with AUTOSAR support, Memory-Built-In Self-Test (MBIST) and secure boot.

The PIC32CM JH is compatible with AUTOSAR, an open software architecture, providing suppliers with the ability to change to lower-level hardware but keep the original application code, making it easier to migrate between different designs. AUTOSAR-ready is designed to streamline the development process and reduce overall costs. When using AUTOSAR, Microchip offers Automotive Safety Integrity Level (ASIL) B Microcontroller Abstraction Layers (MCALs) for functional safety applications — providing the lower-level hardware interface to the MCU.

Automotive industry OEMs require both functional safety and cybersecurity protection for many in-vehicle applications including touch buttons and touch wheels, door controls and console controls, and body applications such as Advanced Driver Assistance Systems (ADAS). The PIC32CM JH, when paired with one of Microchip's Trust Anchor TA100 CryptoAutomotive™ security ICs, is compliant to ISO/SAE 21434, the new Cybersecurity Standard for Automotive. The TA100 employs ultra-secure hardware-based cryptographic key storage and cryptographic countermeasures to eliminate potential backdoors linked to software weaknesses.

"With the PIC32CM JH MCU, Microchip is addressing the growing need for microcontroller solutions that are designed with functional safety and cybersecurity protection, which is particularly important in the automotive industry," said Rod Drake vice president of Microchip Technology's 32-bit MCU business unit. "OEMs and other manufacturers now have the option to use an entry-level Arm Cortex-M0+ based MCU to meet compliance requirements previously only available on higher-end MCUs."

The secure boot is part of the hardware. It authenticates the code to make sure it is valid and prevents malicious code from being loaded onto the MCU. Other hardware features included on the PIC32CM JH MCU are Error Correction Code (ECC) with fault injection, loopbacks on the communication interfaces, system memory protection unit and MBIST, all of which are safety mechanisms used to meet ISO 26262, IEC 61508 and IEC 60730 standards.

MBIST is the industry-standard method of testing embedded memories and can quickly test the integrity of the Static Random-Access Memory (SRAM) to ensure it is functioning properly before the code is run to mitigate failures. To support developers with implementation, the PIC32CM JH comes with functional safety collateral such as a safety manual, Failure Modes Effects and Diagnostic Analysis (FMEDA) and diagnostic code targeting ISO 26262 ASIL B safety levels.

Additionally, the PIC32CM JH includes advanced touch with Driven Shield Plus, providing noise and water tolerant operability. This feature is necessary for home appliances, industrial and automotive applications where the touch must work in a variety of harsh environments.

Development Tools

The PIC32CM JH MCU is supported by the **PIC32CM JH01 Curiosity Pro Development Kit** (Part number EV81X90A).

Pricing and Availability

The PIC32CM JH MCU is available today starting at $2.61 each in 10,000-unit quantities. The EV81X90A is available in single quantities for $120. For additional information or 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: **www.flickr.com/photos/microchiptechnology/52278044112/sizes/l**

About Microchip Technology
Microchip Technology Inc. is a leading provider of smart, connected and secure embedded control solutions. Its easy-to-use development tools and comprehensive product portfolio enable customers to create optimal designs which reduce risk while lowering total system cost and time to market. The company's solutions serve more than 120,000 customers across the industrial, automotive, consumer, aerospace and defense, communications and computing markets. 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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