News Release/Presseinformation

Infineon's New XMC1000 Industrial Microcontroller Family Delivers 32-Bit Performance at 8-Bit Prices; Breakthrough Price/Performance Enabled By 65nm e-Flash Technology on 300mm Wafers; Samples Available from March 2013

Neubiberg, Germany – January 17, 2013 – Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) today presented its new 32-bit microcontroller family XMC1000, which uses the ARM® Cortex™-M0 processor. With the XMC1000, Infineon is the first semiconductor provider to offer 32-bit microcontrollers at 8-bit prices that are supported with an advanced, 32-bit peripheral set.

The breakthrough price/performance of the device family is achieved by using state-of-the-art 65nm embedded flash production technology on 300mm wafers and combining an ARM® 32-bit processor with advanced peripheral functions designed for target application requirements – specifically low-end 8-bit industrial applications. The applications addressed by XMC1000 include sensor and actuator applications, LED lighting, digital power conversion, such as uninterruptible power supplies, and simple motor drives, such as those used in household appliances, pumps, fans and e-bikes.

"The XMC1000 family offers clear advantages for making the switch from 8-bit to 32-bit MCUs in a wide range of systems. The MCUs deliver true 32-bit performance at 8-bit prices, application-optimized peripherals, scalability with regard to the XMC4000 microcontroller family and the user-friendly, free DAVE development environment," says Dr. Stephan Zizala, Senior Director, Industrial and Multimarket Microcontrollers at Infineon Technologies AG. "With the XMC1000 microcontrollers, Infineon is creating a decisive incentive for switching architecture from 8 to 32 bit."

The XMC1000 family: 8-bit price for 32-bit performance

Particularly for low-end industrial applications, where cost pressure places a premium on design flexibility, developers look for highly scalable MCU platforms. For this

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reason, Infineon is simultaneously launching the XMC1000 family in three series; XMC1100 (Entry series), XMC1200 (Feature series) and XMC1300 (Control series). The three series differ essentially in terms of their memory capacity and peripheral set. On-chip flash size ranges between 8KB and 200KB, which is a far broader memory range than is usual today for 8-bit microcontrollers. The XMC1000 family currently comprises 23 products in TSSOP packages with 16, 28 and 38 pins.

The XMC1000 family addresses industrial applications which, to date, were reserved for 8-bit MCUs. In addition to as much as 200KB flash memory, the MCUs feature high-performance PWM timers, 12-bit A/D converters and programmable serial communication interfaces. Additional features include a module for touch control and LED displays, a peripheral unit for the dimming and colour control of LEDs – otherwise known as the Brightness and Colour Control Unit (BCCU) – and a mathematical coprocessor specifically for motor drive controls. The XMC1000 microcontrollers satisfy the requirements defined by the standard IEC60730 Class B, which is prescribed for the safety of household appliances sold in Europe, and offer, for example, hardware error correction (ECC) and corresponding memory tests. A further unique feature is a flash loader with a 128-bit AES accelerator, which allows a design engineer's valuable software IP – so important especially in cost-sensitive applications – to be better protected.

The **XMC1100 Entry series** devices offer inexpensive access to the XMC1000 world for numerous industrial applications. Devices in this series have six 12-bit A/D converter channels, which operate up to 1.88 mega samples/second, and four 16-bit timers in a capture/compare unit 4 (CCU4) and a broad voltage tolerance, between 1.8V and 5.5V. These features together support a wide range of applications.

The **XMC1200 Feature series** incorporates additional application-specific features, including a unit for capacitive touch sensing and LED display controls and the BCCU. The BCCU permits flicker-free dimming and colour control of LEDs with virtually no burden on the processor. Variants in this series are available for the extended temperature range of -40°C up to 105°C.

Last but not least, the **XMC1300 Control series** is specifically optimized for motor control and digital power conversion applications. It features a very efficient capture/compare unit 8 (CCU8) with two compare channels and asymmetric PWM

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functionality plus a position interface (POSIF) for the precise detection of the motor position. XMC1300 devices also offer a mathematical coprocessor, which permits efficient sensorless FOC (field oriented control) solutions for electric motors. This is unique for Cortex-M0-based products. The XMC1300 series also offers variants for the temperature range up to 105°C.

Easy switching from 8 bit to 32 bit with DAVE™

The XMC1000 family utilizes the same free, integrated development platform as the the XMC4000 family. Known as DAVE, this platform makes application-oriented software development user-friendly and eases transition between the XMC1000 and XMC4000 families. The DAVE apps make it possible, within a graphic development environment, to combine and configure software components, to map these automatically to the available microcontroller resources and to automatically generate the C code and software documentation. DAVE incorporates a free GNU compiler and debugger. Furthermore, Infineon collaborates with numerous development partners, who offer compilers, debuggers, software analysis and flash programmers in addition to embedded software solutions, training and technical support for the XMC1000 family.

Availability of XMC1100, XMC1200, XMC1300 and development kits

Samples of all three XMC1000 series and the DAVE development environment for XMC1000 will be available from March 2013. Volume production is planned for Q4 2013. Depending on the particular XMC1000 series and peripheral set, prices for order quantities of several million units can range between Euro 0.25 and Euro 1.25. There are boot kits available for an easy and low-cost evaluation of all XMC1000 series, as well as comprehensive application kits for the XMC1000 target applications.

Further information

Further information on the products of the XMC1000 and XMC4000 families is available at www.infineon.com/xmc. DAVE is available as a free download from the Infineon website at www.infineon.com/dave.

Infineon will be presenting the new XMC1000 microcontroller family at the Embedded World trade fair (February 26-28, 2013, Nuremberg, Germany) in Hall 4A, Booth 222.

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About Infineon

Infineon Technologies AG, Neubiberg, Germany, offers semiconductor and system solutions addressing three central challenges to modern society: energy efficiency, mobility, and security. In the 2012 fiscal year (ending September 30), the Company reported sales of Euro 3.9 billion with close to 26,700 employees worldwide. Infineon is listed on the Frankfurt Stock Exchange (ticker symbol: IFX) and in the USA on the over-the-counter market OTCQX International Premier (ticker symbol: IFNNY).

Further information is available at www.infineon.com
This news release is available online at www.infineon.com/press

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