

- Home
- Products
- Design
- Support
- Applications
- Buy/Sample
- Corporate
- What's New

[Home](#) ▶ [Corporate Home Page](#) ▶ [News and Events Main Page](#) ▶

- Resources**
- [Contacts & Press Room](#)
 - [Technical Articles and White Papers](#)
 - [Recent Publications of Interest](#)
 - [Worldwide Tradeshows & Events](#)
 - [Press Archives](#)
 - [MicroSolutions Newsletter](#)
 - [EMC Newsletter](#)

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Microchip Technology Debuts nanoWatt XLP™ Microcontrollers

With World's Lowest Sleep Current

eXtreme Low Power Technology Provides as Low as 20 nA Sleep Currents in

New 8- and 16-bit PIC® Microcontrollers, Also Announced Today

CHANDLER, Ariz., April 23, 2009 [NASDAQ: MCHP] — Microchip Technology Inc., a leading provider of microcontroller and analog semiconductors, today announced its next-generation low-power PIC® microcontroller (MCU) families with [nanoWatt XLP™ eXtreme Low Power Technology](#) for sleep currents as low as 20 nA. These three new 8- and 16-bit MCU families join three other recent 8-bit families that are all part of Microchip's nanoWatt XLP portfolio, providing designers with a rich and compatible low-power migration path that includes on-chip peripherals for USB and mTouch™ sensing solutions. This industry-leading combination of low power consumption and functionality makes these PIC MCUs ideal for any battery-powered or power-constrained application.



Photos and Block Diagrams Available Through Flickr or Editorial Contact: <http://www.flickr.com/photos/microchiptechnology/sets/72157617112334437/>



Head-to-Head Comparison Video of Microchip's nanoWatt XLP MCU Current Consumption VS. the Competition, Available Through YouTube or Editorial Contact: <http://www.youtube.com/watch?v=NifzpSOIY2k>

"Microchip's new nanoWatt XLP families of PIC microcontrollers have surpassed the competition by a substantial margin to offer a new industry benchmark for the lowest sleep current consumption," said Tony Massimini, chief of technology at Semico Research Corporation. "When you factor in the integration of EEPROM, oscillators, USB and capacitive touch sensing peripherals, the potential reduction in system-level power consumption is quite substantial."

Three of nanoWatt XLP Technology's key advantages are: Sleep currents down to 20 nA, Real-Time Clock currents down to 500 nA, and Watchdog Timer currents down to 400 nA. The vast majority of low-power applications require one or more of these features. nanoWatt XLP Technology combines all three in a comprehensive portfolio of devices. Whether it is extended battery life, sealed batteries, or the integration of energy harvesting, Microchip's 8- and 16-bit PIC MCUs with nanoWatt XLP Technology provide more freedom for designers that need their products to operate longer using less power, or requiring fewer battery changes.

"The extremely low sleep current and numerous wake-up features of Microchip's new nanoWatt XLP microcontrollers should be ideal for battery-operated devices, which actually spend most of the time asleep," said Tom Starnes, embedded processor analyst at the semiconductor research firm Objective Analysis. "The interest in the market for such low-power processors, for use in consumer to industrial applications, is really on the rise."

The three new nanoWatt XLP MCU families that were announced today include the four-member, 16-bit PIC24F16KA family, which features typical sleep currents as low as 20 nA along with integrated EEPROM memory, and small-footprint and low pin count (20- and 28-pin) package options. Additionally, this family enables applications to run for more than 20 years from a single battery. The six-member PIC18F46J11 and the six-member PIC18F46J50 8-bit MCU families feature typical sleep currents of less than 20 nA. The general-purpose PIC18F46J11 MCUs provide up to 64 KB of Flash program memory and the peripheral set of a typical 64- or 80-pin device in only 28- or 44-pins; while the PIC18F46J50 devices add integrated Full-Speed USB 2.0 to enable connectivity for embedded applications requiring remote field upgrades or the downloading of data.



Overview Video on Microchip's nanoWatt XLP Technology, Available Through YouTube or Editorial Contact:
<http://www.youtube.com/watch?v=nHc2tbxcDRA>

"Through significant investment in our new nanoWatt XLP Technology, which combines enhanced design techniques and new features, Microchip has driven power consumption to new lows, surpassing the industry and becoming the new leader in low-power microcontrollers," said Mitch Obolsky, vice president of Microchip's Advanced Microcontroller Architecture Division.

Numerous applications can benefit from the extreme low power and peripheral integration of the nanoWatt XLP MCUs. Examples include portable and battery-powered applications in the **Consumer** (sealed disposable electronics, portable electronics white goods, game controllers, digital photo frames, coffee machines); **Industrial** (energy harvesting/scavenging, utility meters, security systems, thermostats, sprinkler timers, portable temperature controllers, remote/portable gas sensors and remote sensor networks, data logging and asset tracking, sealed/harsh environment sensors); **Automotive** (diagnostic equipment, car alarms, key fobs); and **Medical** markets (home medical devices, oxygen/bio flow meters, digital thermometers, patient monitors, lifestyle/fitness monitors and pedometers).

Complete nanoWatt XLP Portfolio

The table below shows the entire nanoWatt XLP portfolio, including three new and three existing MCU families. For a complete overview of nanoWatt XLP Technology, please visit: <http://www.microchip.com/XLP>

Family Name	Category
New Families	
PIC24F16KA	16-bit MCUs, General Purpose
PIC18F46J50	8-bit MCUs, USB
PIC18F46J11	8-bit MCUs, General Purpose
Existing Families	
PIC16F72X	8-bit MCUs, General Purpose
PIC18F14K50	8-bit MCUs, USB
PIC18F4XK20	8-bit MCUs, General Purpose

Development Tools

Owners of the [Explorer 16 development board](#) can purchase a \$25 [PIC24F16KA plug-in module](#) (part # MA240017) for development with this new 16-bit family. Likewise, owners of the [PIC18 Explorer Board](#) can purchase a \$25 plug-in module for development with the new [PIC18F46J11 general-purpose 8-bit MCUs](#) (part # MA180023). The new PIC18F46J50 USB 8-bit MCUs are supported by the new \$45 [PIC18F46J50 FS USB Demo Board](#) (part # MA180024), which also plugs into the PIC18 Explorer Board. All nanoWatt XLP microcontrollers are supported by Microchip's world-class development tools, including the free [MPLAB® IDE](#), the [MPLAB REAL ICE™](#) emulation system, the [MPLAB ICD 3](#) in-circuit debugger, the [PICkit™ 3](#) low-cost debugger/programmer and Microchip's [free C compilers](#). These tools are available today at <http://www.microchip.com/XLPTools>.

Availability & Pricing

16-bit MCUs

The four PIC24F16KA 16-bit family members are available now for general sampling and volume production, with prices starting at \$1.38 each in 10,000 unit quantities. The 20-pin package options for the PIC24F08KA101 and PIC24F16KA101 MCUs are: QFN, SSOP, SOIC and PDIP. The 28-pin package options for the PIC24F08KA102 and PIC24F16KA102 MCUs are: QFN, SSOP, SOIC and SPDIP.

General-Purpose 8-bit MCUs

The six PIC18F46J11 general-purpose 8-bit family members are available now for general sampling and volume production, with prices starting at \$1.58 each in 10,000 unit quantities. The 28-pin package options for the PIC18F24J11, PIC18F25J11 and PIC18F26J11 MCUs are: QFN, SSOP, SOIC and SPDIP. The 44-pin package options for the PIC18F44J11, PIC18F45J11 and PIC18F46J11 MCUs are: QFN and TQFP.

USB 8-bit MCUs

The six PIC18F46J50 USB 8-bit family members are available now for general sampling and volume production, with prices starting at \$1.78 each in 10,000 unit quantities. The 28-pin package options for the PIC18F24J50, PIC18F25J50 and PIC18F26J50 MCUs are: QFN, SSOP, SOIC and SPDIP. The 44-pin package options for the PIC18F44J50, PIC18F45J50 and PIC18F46J50 MCUs are: QFN and TQFP.

For additional information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip's Web site at

<http://www.microchip.com/XLP>.

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 <http://www.microchip.com>.

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