

PIC16F630/676 Microcontroller Family

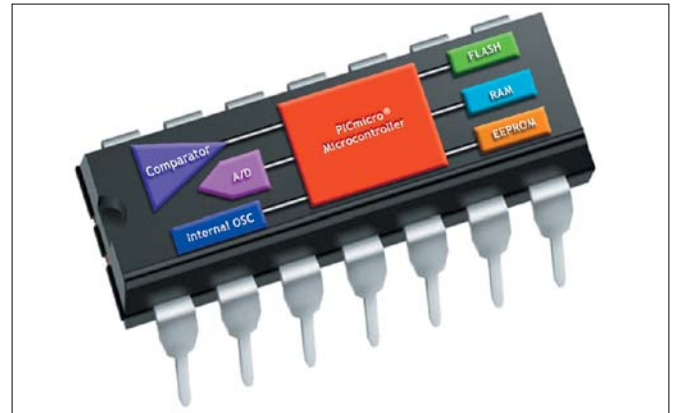
The PIC16F630/676 microcontroller products merge all the advantages of the mid-range x14 architecture and the flexibility of Flash program memory into a 14-pin package. The PIC16F6XX devices feature a 14-bit instruction set, small footprint package, and a wide operating voltage of 2.0-5.5 volts. In addition, these devices offer an internal programmable 4 MHz oscillator, on-board EEPROM data memory, on-chip voltage reference, and up to 8 channels of 10-bit A/D. These 14-pin microcontrollers provide the features and intelligence not previously available due to cost and board space limitations. With the flexibility of Flash and an excellent development tool suite including a low cost In-Circuit Debugger (ICD), In-Circuit Serial Programming™ (ICSP™) and full ICE 2000 emulation, these devices are ideal for just about any embedded control application.

High-Performance RISC CPU:

- Only 35 single word instructions to learn
- All single cycle instructions except program branches, which are two-cycle
- Operating Speed: DC - 20 MHz oscillator/clock input
DC - 200 ns instruction cycle
- Memory:
 - 1024 x 14 words of Flash Program Memory
 - 64 x 8 bytes of Data Memory (SRAM)
 - 128 x 8 bytes of EEPROM Data Memory
- 8-level deep stack
- Direct, Indirect, and Relative Addressing modes for data and instructions

Peripheral Features:

- High current sink/source: 25 mA
- 12 I/O pins with individual direction control
- Programmable interrupt-on-pin change
- Programmable pull-ups on input pins
- Timer0 module: 8-bit timer/counter with 8-bit prescaler
- Timer1 module: 16-bit timer/counter with prescaler, can be incremented during Sleep via external crystal/clock



Advanced Analog Features:

- Analog-to-Digital Converter A/D with:
 - 10-bit resolution
 - Programmable 8-channel input
 - Voltage reference input
- Analog Comparator module with 1 comparator:
 - Programmable On-Chip Voltage Reference (CVREF) module
 - Programmable input multiplexing from device inputs
 - Comparator output is externally accessible

Special Microcontroller Features:

- 100,000 erase/write cycle Flash program memory
- 1,000,000 erase/write cycle data EEPROM memory
- Low-power Brown-out Reset (BOR)
- Low-power Power-on Reset (POR)
- Watchdog Timer (WDT) with its own on-chip RC oscillator for reliable operation
- Programmable code protection
- Power saving Sleep mode
- Internal 4 MHz oscillator
- In-Circuit Serial Programming™ (ICSP™) via two pins
- Low cost MPLAB® In-Circuit Debugger (ICD)

CMOS Technology:

- Low-power, high-speed Flash technology
- Fully static design
- Wide operating voltage range (2.0V to 5.5V)
- Industrial and Extended temperature ranges
- Low-power consumption



