The PIC12F629/675 microcontroller products merge all the advantages of the mid-range x14 architecture and the flexibility of FLASH program memory into an 8-pin package. The PIC12F6XX 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 4 channels of 10-bit A/D. These 8-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  
- 6 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 4-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:**
- 100K 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
### PIC12F629/675 Microcontroller Family

<table>
<thead>
<tr>
<th>Device</th>
<th>FLASH Program Memory (Bytes)</th>
<th>Data RAM (Bytes)</th>
<th>EEPROM Data Bytes</th>
<th>I/O Pins</th>
<th>ADC 10 bits</th>
<th>Comparator</th>
<th>BOR</th>
<th>Timers</th>
<th>ICSP™</th>
<th>Comments</th>
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<tbody>
<tr>
<td>PIC12F629</td>
<td>1792</td>
<td>64</td>
<td>128</td>
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<td>Yes</td>
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<td>4 MHz Internal Oscillator, ICD*</td>
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<td>4 MHz Internal Oscillator, ICD*</td>
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* Requires purchase of separate adapter module.

Abbreviation: 
ADC = Analog-to-Digital Converter
WDT = Watchdog Timer
ICSP™ = In-Circuit Serial Programming
BOR = Brown-out Reset
ICD = In-Circuit Debugger

### Development Tools from Microchip

- **MPLAB® IDE**: Integrated Development Environment (IDE) (Hardware/Software Project Manager)
- **MPASM™ Assembler**: Universal PICmicro Macro-assembler Software
- **MPLINK™ Object Linker**: Linker Software
- **MPLIB™ Object Librarian**: Librarian Software
- **MPLAB SIM**: Software Simulator
- **MPLAB ICE 2000**: Full-featured Modular in-circuit Emulator
- **PICSTART® Plus Programmer**: Entry-level Program Loader and Development Kit
- **PRO MATE® II Device Programmer**: Full-featured, Modular Device Programmer
- **MPLAB ICD2**: In-Circuit Debugger
- **AC162050**: Header Adapter for ICD2

* 8-bit, 8-pin devices protected by Microchip's U.S. Patent No. 5,847,450. Additional U.S. and foreign patents and applications may be issued or pending.

### Contact Information

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<td>Toronto</td>
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