

8-Pin Enhanced FLASH Microcontroller with 10-bit A/D Product Brief

High Performance RISC CPU:

- C compiler optimized instruction set
- Linear program memory addressing:
 - 4096 x 8 on-chip FLASH program memory (PIC18F022)
 - 2048 x 8 on-chip FLASH program memory (PIC18F012)
- Linear data memory addressing:
 - 256 x 8 general purpose registers (SRAM)
 - 128 x 8 EEPROM
- Operating speed:
 - DC - 40 MHz clock input
 - DC - 100 ns instruction cycle
 - Internal oscillator with 5 programmable selectable speeds (32 kHz, 500 kHz, 1 MHz, 4 MHz, 8 MHz)
- 2.0V operation (4 MHz)
- 16-bit wide instructions
- 8-bit wide data path
- 31 levels of hardware stack
- Software stack capability
- Multi-vector interrupt capability

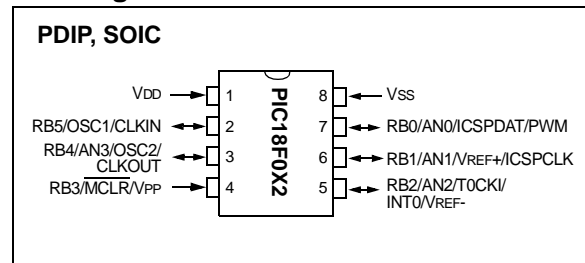
Peripheral Features:

- High current sink/source 25 mA/25 mA (except RB3)
- Individual interrupt/wake-up-on-port-change control
- Timer0: 8-bit/16-bit timer/counter with 8-bit programmable prescaler
- Timer2: 8-bit timer with prescaler, postscaler and period register
- Compare/PWM: 10-bit resolution

Analog Features:

- 10-bit/4-channel Analog-to-Digital Converter module (A/D)

Pin Diagram



Special Microcontroller Features:

- 100,000 erase/write cycle Enhanced FLASH program memory typical
- 1,000,000 erase/write cycle Data EEPROM memory typical
- Data EEPROM Retention > 40 years
- Self reprogrammable under software control
- Power-on Reset (POR), Power-up Timer (PWRT) and Oscillator Start-up Timer (OST)
- Brown-out Reset (BOR)
- Programmable Low Voltage Detection circuitry (PLVD)
- Watchdog Timer (WDT) with its own on-chip RC oscillator for reliable operation
- Programmable code protection
- Power saving SLEEP mode with wake-up-on-pin-change
- In-Circuit Serial Programming™ (ICSP™) via two pins
- Selectable oscillator options including:
 - Internal oscillator
 - External RC oscillator
 - External crystal/resonator/clock input

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

Device	Program Memory		Data SRAM (Bytes)	Data EEPROM	I/O	10-bit A/D (ch)	CP	SSP	USART	BOR/ PLVD/ VREF	Comparator
	Bytes	# Single Word Instructions									
PIC18F022	4K	2048	256	128	6	4	Yes	No	No	Yes	No
PIC18F012	2K	1024	256	128	6	4	Yes	No	No	Yes	No

PIC18F0X2

NOTES:

Note the following details of the code protection feature on PICmicro[®] MCUs.

- The PICmicro family meets the specifications contained in the Microchip Data Sheet.
- Microchip believes that its family of PICmicro microcontrollers is one of the most secure products of its kind on the market today, when used in the intended manner and under normal conditions.
- There are dishonest and possibly illegal methods used to breach the code protection feature. All of these methods, to our knowledge, require using the PICmicro microcontroller in a manner outside the operating specifications contained in the data sheet. The person doing so may be engaged in theft of intellectual property.
- Microchip is willing to work with the customer who is concerned about the integrity of their code.
- Neither Microchip nor any other semiconductor manufacturer can guarantee the security of their code. Code protection does not mean that we are guaranteeing the product as “unbreakable”.
- Code protection is constantly evolving. We at Microchip are committed to continuously improving the code protection features of our product.

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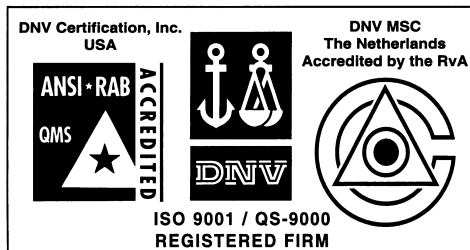
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