



PIC16F818/819

18/20-Pin Enhanced FLASH Microcontroller Product Brief

High Performance RISC CPU:

- Only 35 single word instructions to learn
- All single cycle instructions except for program branches, which are two-cycle
- Operating speed: DC - 20 MHz clock input
DC - 200 ns instruction cycle
- Up to 2K x 14 words of FLASH Program Memory, up to 256 x 8 bytes of Data Memory (RAM), up to 256 x 8 bytes of EEPROM Data Memory
- 18-pin devices are pinout compatible to other 18-pin PIC16CXXX and PIC16FXXX microcontrollers

Peripheral Features:

- 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
- Timer2 module: 8-bit timer/counter with 8-bit period register, prescaler and postscaler
- One Capture, Compare, PWM module
- Synchronous Serial Port (SSP) module with two modes of operation:
 - 3-wire SPI™ (Supports all four SPI modes)
 - I²C™ Slave mode
- High Sink/Source Current: 25 mA

Analog Features:

- 10-bit, 5-channel Analog-to-Digital Converter (A/D)
- Brown-out Reset (BOR)

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
- In-Circuit Serial Programming™ (ICSP™) via two pins
- Single supply 5V In-Circuit Serial Programming
- Watchdog Timer (WDT) with its own on-chip RC oscillator for reliable operation
- Programmable code protection
- Power saving SLEEP mode
- Selectable oscillator options:
 - Three Crystal or Resonator modes
 - External RC mode
 - Selectable internal RC mode (31 kHz, 500 kHz, 1 MHz, 4 MHz, or 8 MHz)
- MPLAB® In-Circuit Debug (ICD) via two pins

CMOS Technology:

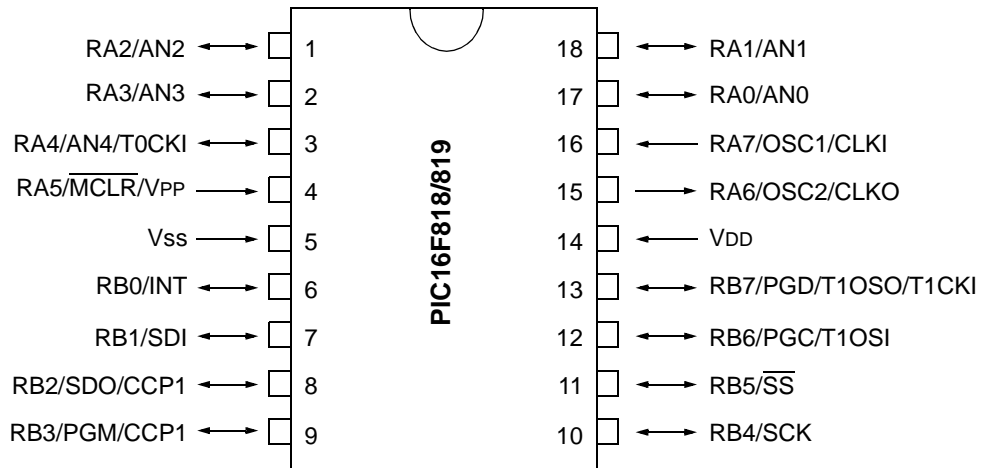
- Low power, high speed FLASH/EEPROM technology
- Fully static design
- Wide operating voltage range (2.0V to 5.5V)
- Industrial temperature ranges
- Low power consumption

Device	Program Memory		Data SRAM (Bytes)	EEPROM (Bytes)	I/O	10-bit A/D (ch)	CCP (PWM)	SSP	Timers 8/16-bit	Internal RC
	Bytes	# Single Word Instructions								
PIC16F818	1.8K	1024	128	128	16	5	1	Yes	2 / 1	Yes
PIC16F819	3.5K	2048	256	256	16	5	1	Yes	2 / 1	Yes

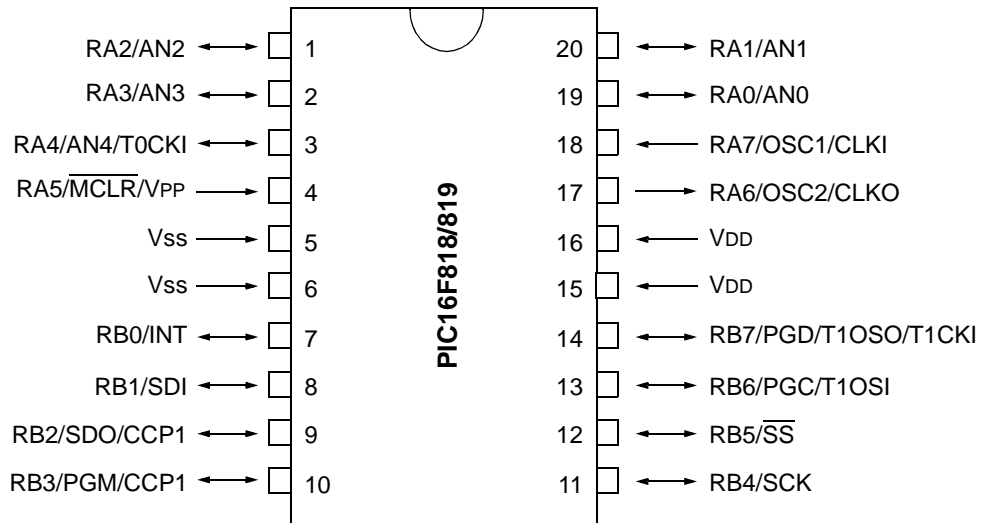
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Pin Diagrams:

18-PIN DIP, SOIC



20-PIN SSOP



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.
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- Code protection is constantly evolving. We at Microchip are committed to continuously improving the code protection features of our product.

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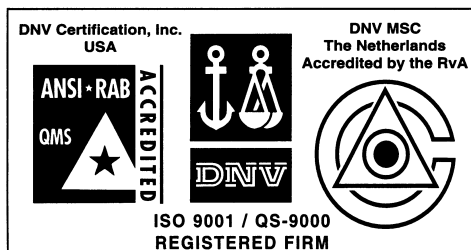
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