
18/20-Pin Enhanced FLASH Microcontrollers with 10-bit A/D, ECCP and EUSART Product Brief

High Performance RISC CPU:

- C compiler optimized architecture/instruction set
 - Source code compatible with the PIC16CXX instruction set
- Linear program memory addressing to 8 Kbytes
- 256 x 8 bytes of Data memory (RAM)
- 256 x 8 bytes of Data EEPROM
- Up to 10 MIPS operation:
 - DC - 40 MHz osc/clock input
 - 4 - 10 MHz osc/clock input with PLL active
- 16-bit wide instructions, 8-bit wide data path
- Priority levels for interrupts
- 8 x 8 Single Cycle Hardware Multiplier
- 31 levels of hardware stack
- Software stack capability

Peripheral Features:

- High current sink/source 25 mA/25 mA
- Three external interrupt pins
- Timer0 module: 8/16-bit timer/counter
- Timer1 module: 16-bit timer/counter
- Timer2 module: 8-bit timer/counter
- Timer3 module: 16-bit timer/counter
- Secondary low power oscillator clock option: Timer1/Timer3
 - Secondary oscillator can drive internal Frequency Lock Loop (FLL) to generate multiple system clock
- Enhanced Capture/Compare/PWM (ECCP) modules:
 - Single, Half-bridge and Full-bridge Output modes
 - Programmable Deadband Delay
 - Auto Shutdown
- Enhanced USART module
 - Supports 9-bit Address mode
 - Auto wake-up on START bit
 - Auto baud detection
 - Send special BREAK character

Analog Features:

- 10-bit/7-channel Analog-to-Digital Converter (ADC)
 - Conversion available during SLEEP
- Programmable 16-Level Voltage Detection (LVD) module with interrupt on low voltage detection
- Programmable Brown-out Reset (BOR)

Special Microcontroller Features:

- 100,000 erase/write cycle Enhanced FLASH program memory
- 1,000,000 erase/write cycle data EEPROM memory
- Data EEPROM Retention > 40 years
- Self-reprogrammable under software control
- Multiple power saving SLEEP modes
 - CPU in various operational states
 - 500 nA to 15 μ A typical
- Clock failure recovery mechanism ensures robust operation
- Two-speed start-up
- Selectable oscillator options including:
 - 4X Phase Lock Loop
 - Secondary oscillator (32 kHz) clock input
 - Internal multi-frequency oscillator (31.5 kHz, 125 kHz, 250 kHz, 500 kHz, 1 MHz, 2 MHz, 4 MHz, 8 MHz)
- Extended Watchdog Timer (WDT)
- Programmable code protection
- Power-on Reset (POR), Power-up Timer (PWRT), and Oscillator Start-up Timer (OST)
- In-Circuit Serial Programming™ (ICSP™) via two pins
- Enhanced In-Circuit Debug (EICD) via two pins
 - Supports data memory break
 - Breaks after n pass points

CMOS Technology:

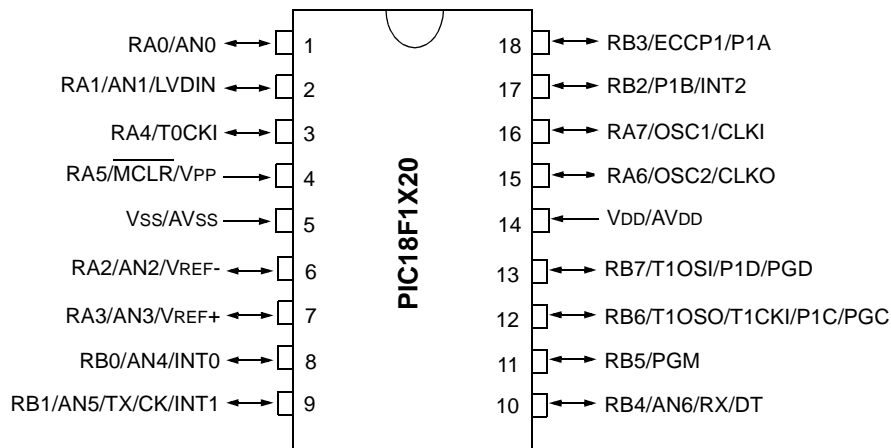
- Low power, high speed FLASH technology
- Fully static design
- Wide operating voltage range (2.0V to 5.5V)
- Industrial and Extended temperature ranges
- Low power consumption

PIC18F1X20

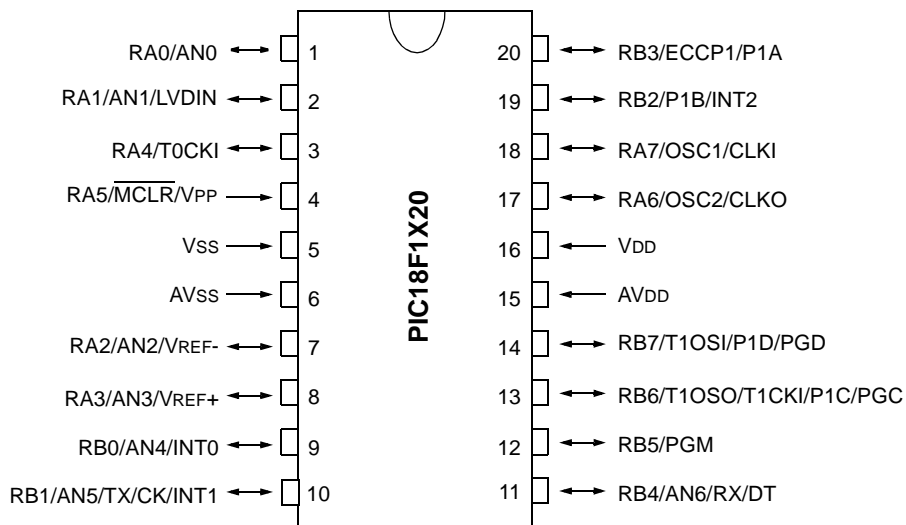
Device	Program Memory		Data SRAM (Bytes)	Data EEPROM	I/O	10-bit A/D (ch)	ECCP (PWM)	EUSART	Timers 8-bit/16-bit
	Bytes	# Single Word Instructions							
PIC18F1220	4K	2048	256	256	16	7	1	Yes	1 / 3
PIC18F1320	8K	4096	256	256	16	7	1	Yes	1 / 3

Pin Diagrams

18-Pin PDIP, SOIC



20-Pin SSOP



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- The PICmicro family meets the specifications contained in the Microchip Data Sheet.
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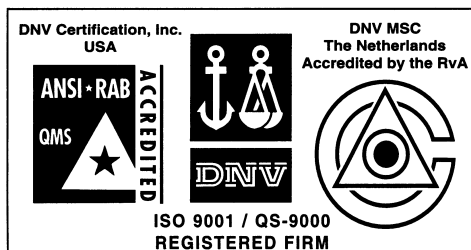
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