

High Performance, Low Power FLASH Microcontrollers Product Brief

High Performance RISC CPU:

- C-compiler optimized architecture/instruction set
 - Source code compatible with the PIC16 and PIC17 instruction set
- Data EEPROM of 256 bytes
- Linear program memory addressing to 8 Kbytes
- Linear data memory addressing to 512 bytes
- Up to 10 MIPS operation:
 - DC - 40 MHz osc./clock input
 - 4 MHz - 10 MHz osc./clock input with PLL active
- 16-bit wide instructions, 8-bit wide data path
- Priority levels for interrupts
- 31-level, software accessible hardware stack
- 8 x 8 Single Cycle Hardware Multiplier

Compatibility:

- Pinout compatible with other PIC16 and PIC18 devices

Peripheral Features:

- High current sink/source 25 mA/25 mA
- Three external interrupt pins
- Timer0 module: 8-bit/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
- Up to two Capture/Compare/PWM (CCP) modules
- Enhanced Capture/Compare/PWM (ECCP) module with Auto-Shutdown and up to 4 PWM outputs (PIC18F4320 only)
- Master Synchronous Serial Port (MSSP) module Two modes of operation:
 - 3-wire SPI™ (supports all 4 SPI modes)
 - I²C™ Master and Slave mode
- Addressable USART module:
 - Supports interrupt on Address bit
- Parallel Slave Port (PSP) module (PIC18F4320 only)

Analog Features:

- 10-bit Analog-to-Digital Converter module (A/D)
 - Conversion available during SLEEP
- Programmable 16-level Low Voltage Detection (LVD) module
 - Supports Interrupt-on-Low Voltage Detection
- Programmable 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
- Multiple Low Power Modes:
 - CPU in various operational states
 - 500 nA to 15 μA typical
- Clock Failure Recovery mechanism ensures robust operation
- Power-on Reset (POR), Power-up Timer (PWRT) and Oscillator Start-up Timer (OST)
- Watchdog Timer (WDT) with its own on-chip RC oscillator for reliable operation
- Programmable code-protection
- Multiple power saving SLEEP modes
- Selectable oscillator options including:
 - 4X Phase Lock Loop
 - Secondary Oscillator (32 kHz) clock input
 - Internal RC Oscillator
- In-Circuit Serial Programming (ICSP™) via two pins
- In-Circuit Debug via two pins

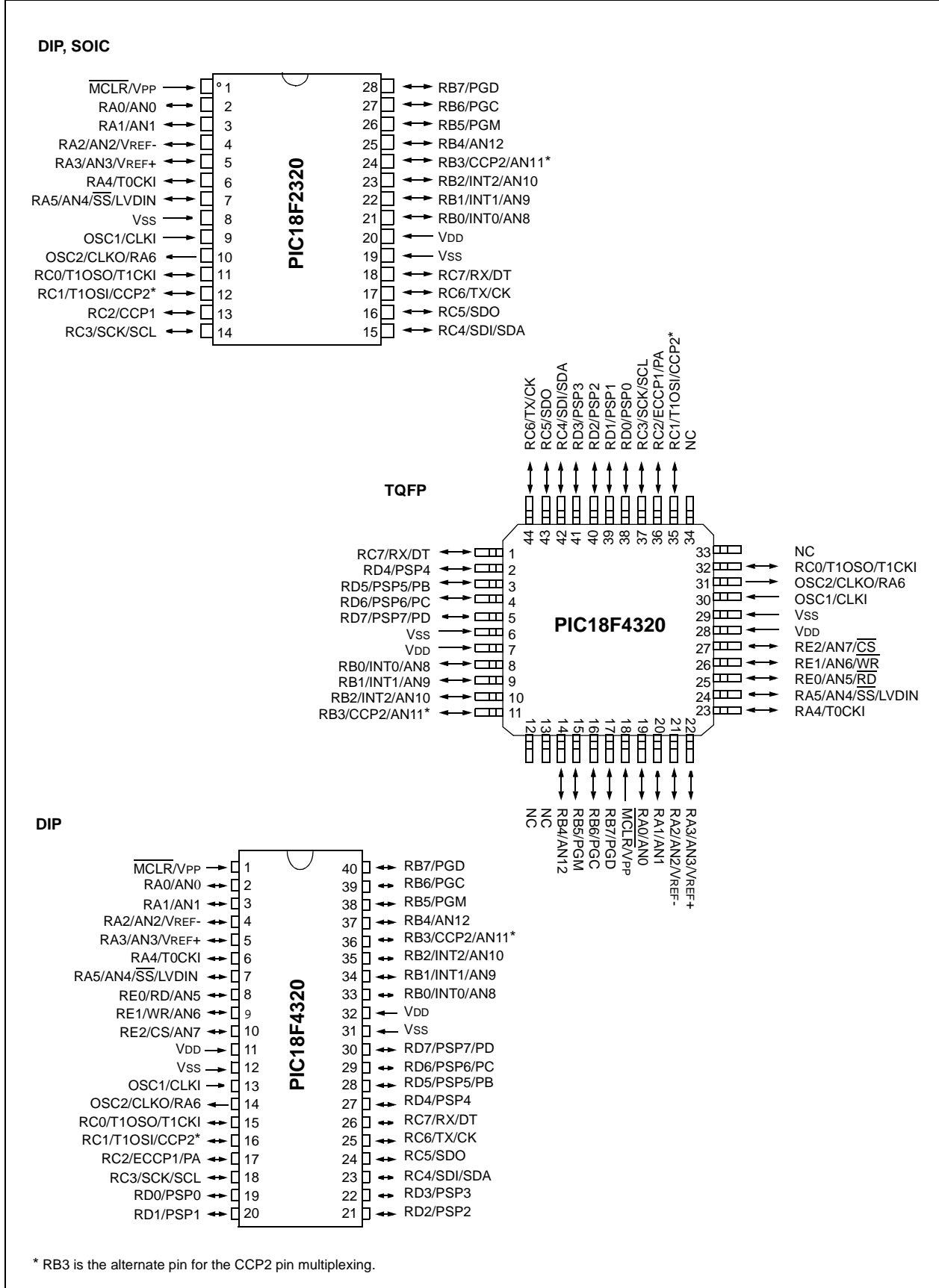
CMOS Technology:

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

Device	Program Memory		Data Memory		I/O	10-bit A/D (ch)	CCP/ECCP (PWM)	MSSP		USART	Timers 8-bit/16-bit
	Bytes	# Single Word Instructions	SRAM (bytes)	EEPROM (bytes)				SPI	Master I ² C		
PIC18F2320	8K	4096	512	256	23	10	2/0	Y	Y	Y	1/3
PIC18F4320	8K	4096	512	256	34	13	1/1	Y	Y	Y	1/3

PIC18FX320

Pin Diagrams



* RB3 is the alternate pin for the CCP2 pin multiplexing.

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- 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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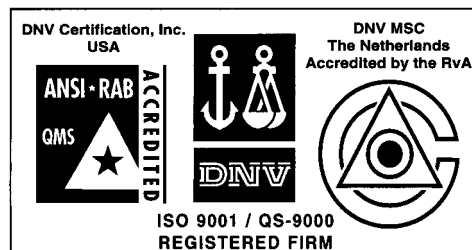
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