



# PIC10F220/222

## 6/8-Pin, 8-Bit Flash Microcontroller Product Brief

### High-Performance RISC CPU:

- Only 33 single-word instructions to learn
- All single-cycle instructions except for program branches which are two-cycle
- Two-level deep hardware stack
- Direct, Indirect and Relative Addressing modes for data and instructions
- 12-bit wide instructions
- 8-bit wide data path
- Nine special function hardware registers
- Operating speed:
  - 4 MHz or 8 MHz internal clock
  - 1000 ns instruction cycle at 4 MHz
  - 500 ns instruction cycle at 8 MHz

### Special Microcontroller Features:

- Precision internal oscillator:
  - Selectable 4 MHz or 8 MHz frequency
  - Factory calibrated to  $\pm 1\%$
- In-Circuit Serial Programming™ (ICSP™)
- In-Circuit Debugging (ICD) support
- Power-on Reset (POR)
- Device Reset Timer (DRT), 1.125 ms, typical
- Watchdog Timer (WDT) with dedicated on-chip RC oscillator for reliable operation
- Programmable code protection
- Multiplexed  $\overline{\text{MCLR}}$  input pin
- Internal weak pull-ups on I/O pins
- Power-saving Sleep mode
- Wake-up from Sleep on-pin change

### Low-Power Features/CMOS Technology:

- Operating Current:
  - 170  $\mu\text{A}$  @ 2V, 4 MHz, typical
- Standby Current:
  - 100 nA @ 2V, typical
- Low-power, High-speed Flash Technology:
  - 100,000 Flash endurance
  - Flash retention > 40-years
- Fully static design
- Wide operating voltage range: 2.0V to 5.5V
- Wide temperature range:
  - Industrial: -40°C to +85°C
  - Extended: -40°C to +125°C

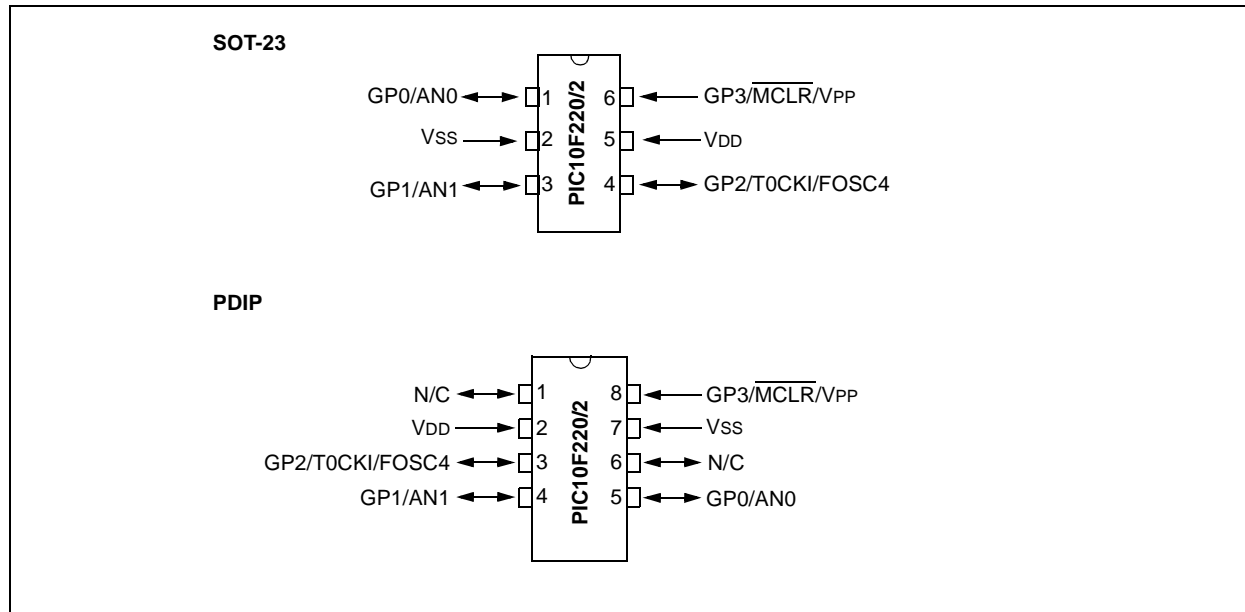
### Peripheral Features:

- 4 I/O pins:
  - 3 I/O pins with individual direction control
  - 1 input-only pin
  - High current sink/source for direct LED drive
- 8-bit real-time clock/counter (TMRO) with 8-bit programmable prescaler
- Analog-to-Digital (A/D) Converter:
  - 8-bit resolution
  - 2-channel external programmable inputs
  - 1-channel internal input to convert on-chip absolute voltage reference

Device	Program Memory	Data Memory	I/O	Timers 8-bit	8-bit A/D Channels
	Flash (words)	SRAM (bytes)			
PIC10F220	256	16	4	1	2
PIC10F222	512	23	4	1	2

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FIGURE 1: PIN DIAGRAMS PIC10F220/222



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