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## PIC10(L)F320/322 Product Brief

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### High-Performance RISC CPU:

- Only 35 Instructions to Learn:
  - All single-cycle instructions, except branches
- Operating Speed:
  - DC – 16 MHz clock input
  - DC – 250 ns instruction cycle
- Up to 512 Words of Flash Program Memory
- 64 Bytes Data Memory
- Eight-level Deep Hardware Stack
- Interrupt Capability
- Processor Self-Write/Read access to Program Memory
- Pinout Compatible to other 6-Pin PIC10FXXX Microcontrollers

### Special Microcontroller Features:

- Low-Power 16 MHz Internal Oscillator:
  - Factory calibrated to  $\pm 1\%$ , typical
  - Software selectable frequency range from 16 MHz to 31 kHz
- Wide Operating Range:
  - 1.8V to 3.6V (PIC10LF32X)
  - 2.3V to 5.5V (PIC10F32X)
- Power-on Reset (POR)
- Power-up Timer (PWRT)
- Brown-out Reset (BOR)
- Ultra Low-Power Sleep Regulator
- Extended Watchdog Timer (WDT)
- Programmable Code Protection
- Power-Saving Sleep mode
- Selectable Oscillator options (EC mode or Internal Oscillator)
- In-Circuit Serial Programming™ (ICSP™) (via Two Pins)
- In-Circuit Debugger Support
- Fixed Voltage Reference (FVR) with 1.024V, 2.048V and 4.096V ('F' variant only) Output Levels
- Integrated Temperature Indicator
- 40-year Flash Data Retention

### Low-Power Features (PIC10LF320/322):

- Standby Current:
  - 20 nA @ 1.8V, typical
- Operating Current:
  - 25  $\mu$ A @ 1 MHz, 1.8V, typical
- Watchdog Timer Current:
  - 500 nA @ 1.8V, typical

### Peripheral Features:

- 4 I/O Pins:
  - 1 input-only pin
  - High current sink/source for LED drivers
  - Individually selectable weak pull-ups
  - Interrupt-on-Change
- Timer0: 8-Bit Timer/Counter with 8-Bit Programmable Prescaler
- Timer2: 8-Bit Timer/Counter with 8-Bit Period Register, Prescaler and Postscaler
- Two PWM modules:
  - 10-bit PWM, max. frequency 16 kHz
  - Combined to single 2-phase output
- A/D Converter:
  - 8-bit resolution with 3 channels
- Configurable Logic Cell (CLC):
  - 8 selectable input source signals
  - Two external inputs per module
  - Software selectable logic functions including:
    - AND/OR/XOR/D Flop/D Latch/SR/JK
    - External or internal inputs/outputs
    - Operation while in Sleep
- Numerically Controlled Oscillator (NCO):
  - 20-bit accumulator
  - 16-bit increment
  - Linear frequency control
  - High-speed clock input
  - Selectable Output modes
    - Fixed Duty Cycle (FDC)
    - Pulse Frequency (PF) mode
- Complementary Waveform Generator (CWG):
  - Selectable falling and rising edge dead-band control
  - Polarity control
  - 2 auto-shutdown sources
  - Multiple input sources: PWM, CLC, NCO

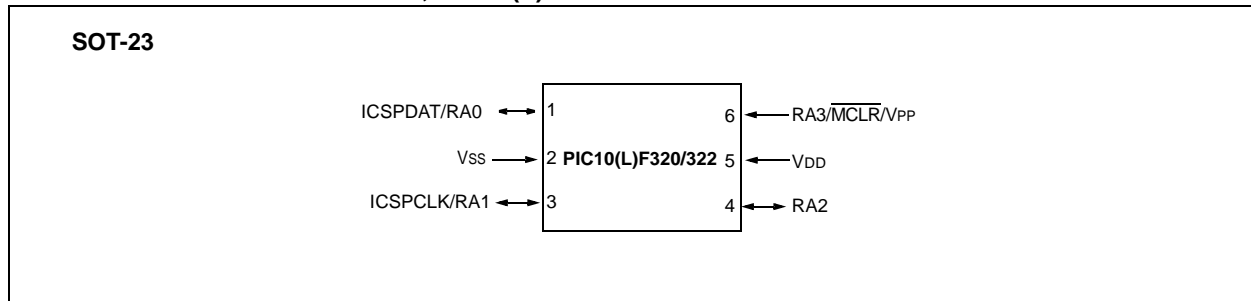
# PIC10(L)F320/322

**TABLE 1: PIC10(L)F320/322 FEATURE SUMMARY**

Device	Program Memory Flash (words)	SRAM (bytes)	I/O <sup>(1)</sup>	8-bit A/D (ch)	CLC	10-bit PWM	Timers 8-bit	NCO	CWG
PIC10F320	256	64	4	3	1	2	2	1	1
PIC10LF320	256	64	4	3	1	2	2	1	1
PIC10F322	512	64	4	3	1	2	2	1	1
PIC10LF322	512	64	4	3	1	2	2	1	1

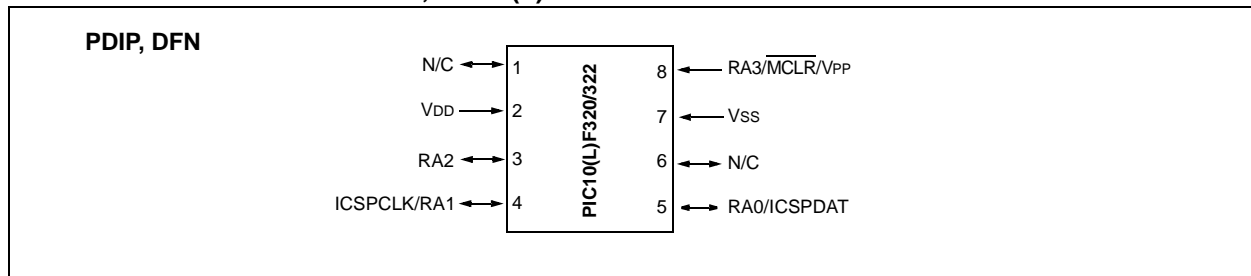
**Note 1:** One pin is input-only.

**FIGURE 1: 6-PIN DIAGRAM, PIC10(L)F320/322**



**Note:** Pin details are subject to change.

**FIGURE 2: 8-PIN DIAGRAM, PIC10(L)F320/322**



**TABLE 2: 6 AND 8-PIN ALLOCATION TABLE (PIC10(L)F320/322)**

I/O	6-Pin	8-Pin	Analog	Timer	CCP	Interrupts	Pull-ups	CWG	NCO	CLC	Basic	ICSP
RA0	1	5	AN0	—	PWM1	IOC0	Y	CWGA	—	CLC1IN1	—	ICSPDAT
RA1	3	4	AN1	—	PWM2	IOC1	Y	CWGB	NCO1CLK	CLC1	CLKIN	ICSPCLK
RA2	4	3	AN2	T0CKI	—	INT/IOC2	Y	CWG1FLT	NCO1	CLC1IN2	CLKR	—
RA3	6	8	—	—	—	IOC3	Y	—	—	—	MCLR	VPP
N/C	—	1	—	—	—	—	—	—	—	—	—	—
N/C	—	6	—	—	—	—	—	—	—	—	—	—
VDD	5	2	—	—	—	—	—	—	—	—	VDD	—
Vss	2	7	—	—	—	—	—	—	—	—	Vss	—

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