



# PIC18F87J10 FAMILY

## 64/80-Pin, High-Performance, 1-Mbit Flash Microcontrollers

### Special Microcontroller Features:

- Low-power, high-speed CMOS Flash technology
- C compiler optimized architecture:
  - Optional extended instruction set designed to optimize re-entrant code
- Power Management Features:
  - Run: CPU on, peripherals on
  - Idle: CPU off, peripherals on
  - Sleep: CPU off, peripherals off
- Priority levels for interrupts
- 8 x 8 Single-cycle Hardware Multiplier
- Extended Watchdog Timer (WDT):
  - Programmable period from 4 ms to 131s
- Single-supply 3.3V In-Circuit Serial Programming™ (ICSP™) via two pins
- In-Circuit Debug (ICD) via two pins
- Wide operating voltage range: 2.0V to 3.6V
- On-chip 2.5V regulator

### Flexible Oscillator Structure:

- High-speed oscillator, up to 40 MHz
- 4x Phase Lock Loop
- Two External Clock modes, up to 40 MHz
- Internal 31 kHz oscillator
- Secondary oscillator using Timer1 @ 32 kHz
- Fail-Safe Clock Monitor:
  - Allows for safe shutdown if oscillator stops
- Two-Speed Oscillator Start-up

### Peripheral Highlights:

- 5.5V Tolerant Inputs
- High-current sink/source 25 mA/25 mA
- Four programmable external interrupts
- Four input change interrupts
- Two Capture/Compare/PWM (CCP) modules
- Three Enhanced Capture/Compare/PWM (ECCP) modules:
  - One, two or four PWM outputs
  - Selectable polarity
  - Programmable dead time
  - Auto-Shutdown and Auto-Restart
- Two Master Synchronous Serial Port (MSSP) modules supporting 3-wire SPI™ (all 4 modes) and I²C™ Master and Slave modes
- Two Enhanced USART modules:
  - Supports RS-485, RS-232 and LIN 1.2
  - Auto-Wake-up on Start bit
  - Auto-Baud Detect
- 10-bit, up to 15-channel Analog-to-Digital Converter module (A/D):
  - Auto-acquisition capability
  - Conversion available during Sleep
- Dual analog comparators with input multiplexing

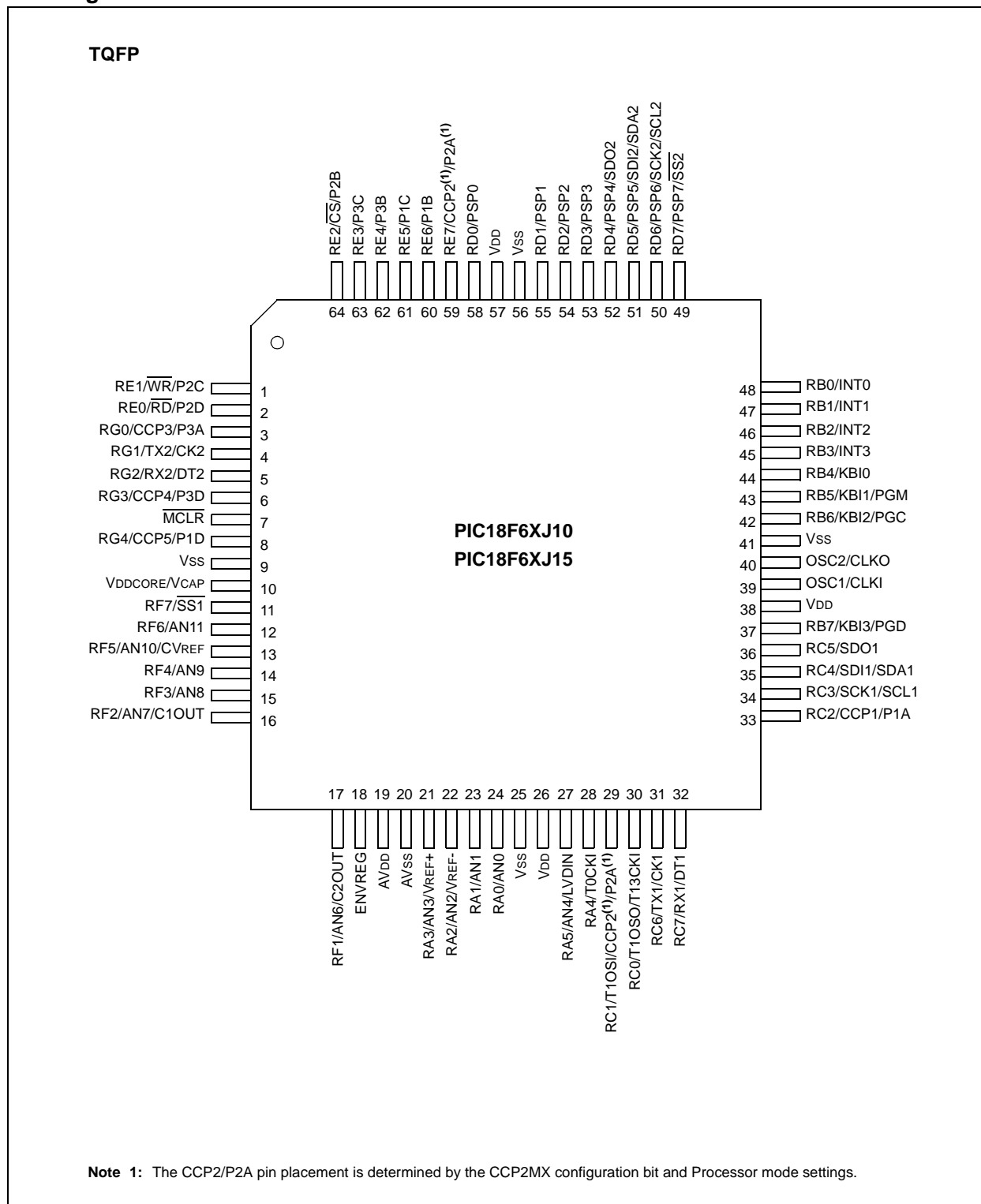
### External Memory Bus (80-pin devices only):

- Address capability of up to 2 Mbytes
- 8-bit or 16-bit interface
- 12-bit, 16-bit and 20-bit Addressing modes

Device	Flash Program Memory (bytes)	SRAM Data Memory (bytes)	I/O	10-bit A/D (ch)	CCP/ ECCP (PWM)	MSSP			EUSART	Comparators	Timers 8/16-bit	External Bus
							SPI™	Master I²C™				
PIC18F64J15	24K	2048	51	11	2/3	2	Y	Y	2	2	2/3	N
PIC18F65J10	32K	2048	51	11	2/3	2	Y	Y	2	2	2/3	N
PIC18F65J15	48K	2048	51	11	2/3	2	Y	Y	2	2	2/3	N
PIC18F66J10	64K	2048	51	11	2/3	2	Y	Y	2	2	2/3	N
PIC18F66J15	96K	3936	51	11	2/3	2	Y	Y	2	2	2/3	N
PIC18F67J10	128K	3936	51	11	2/3	2	Y	Y	2	2	2/3	N
PIC18F84J15	24K	2048	67	15	2/3	2	Y	Y	2	2	2/3	Y
PIC18F85J10	32K	2048	67	15	2/3	2	Y	Y	2	2	2/3	Y
PIC18F85J15	48K	2048	67	15	2/3	2	Y	Y	2	2	2/3	Y
PIC18F86J10	64K	2048	67	15	2/3	2	Y	Y	2	2	2/3	Y
PIC18F86J15	96K	3936	67	15	2/3	2	Y	Y	2	2	2/3	Y
PIC18F87J10	128K	3936	67	15	2/3	2	Y	Y	2	2	2/3	Y

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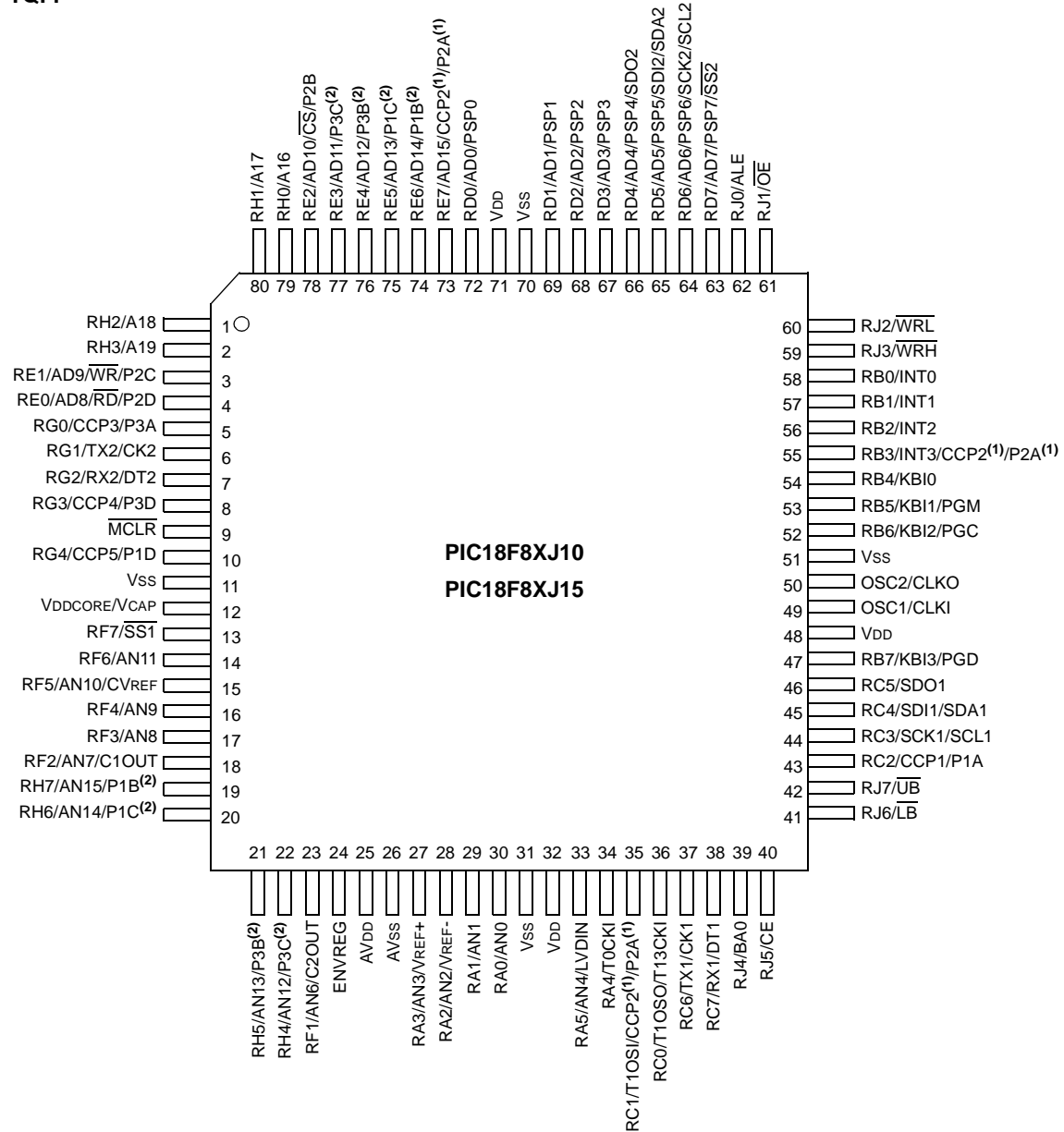
## Pin Diagrams



# PIC18F87J10 FAMILY

## Pin Diagrams (Continued)

TQFP



**Note 1:** The CCP2/P2A pin placement is determined by the CCP2MX configuration bit and Processor mode settings.  
**Note 2:** P1B, P1C, P3B and P3C pin placement is determined by the ECCPMX configuration bit.

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NOTES:

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