



# MICROCHIP

# PIC16C63A/65B/73B/74B

## 8-Bit CMOS Microcontrollers with A/D Converter

### Devices included in this data sheet:

- PIC16C63A
- PIC16C65B
- PIC16C73B
- PIC16C74B

### PIC16CXX Microcontroller Core Features:

- High performance RISC CPU
- Only 35 single word instructions to learn
- All single cycle instructions except for program branches which are two cycle
- Operating speed: DC - 20 MHz clock input  
DC - 200 ns instruction cycle
- 4 K x 14 words of Program Memory,  
192 x 8 bytes of Data Memory (RAM)
- Interrupt capability
- Eight-level deep hardware stack
- Direct, indirect and relative addressing modes
- 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
- Power-saving SLEEP mode
- Selectable oscillator options
- Low power, high speed CMOS EPROM technology
- Wide operating voltage range: 2.5V to 5.5V
- High Sink/Source Current 25/25 mA
- Commercial, Industrial and Automotive temperature ranges
- Low power consumption:
  - < 5 mA @ 5V, 4 MHz
  - 23  $\mu$ A typical @ 3V, 32 kHz
  - < 1.2  $\mu$ A typical standby current

Devices	I/O Pins	A/D Chan.	PSP	Interrupts
PIC16C63A	22	-	No	10
PIC16C65B	33	-	Yes	11
PIC16C73B	22	5	No	11
PIC16C74B	33	8	Yes	12

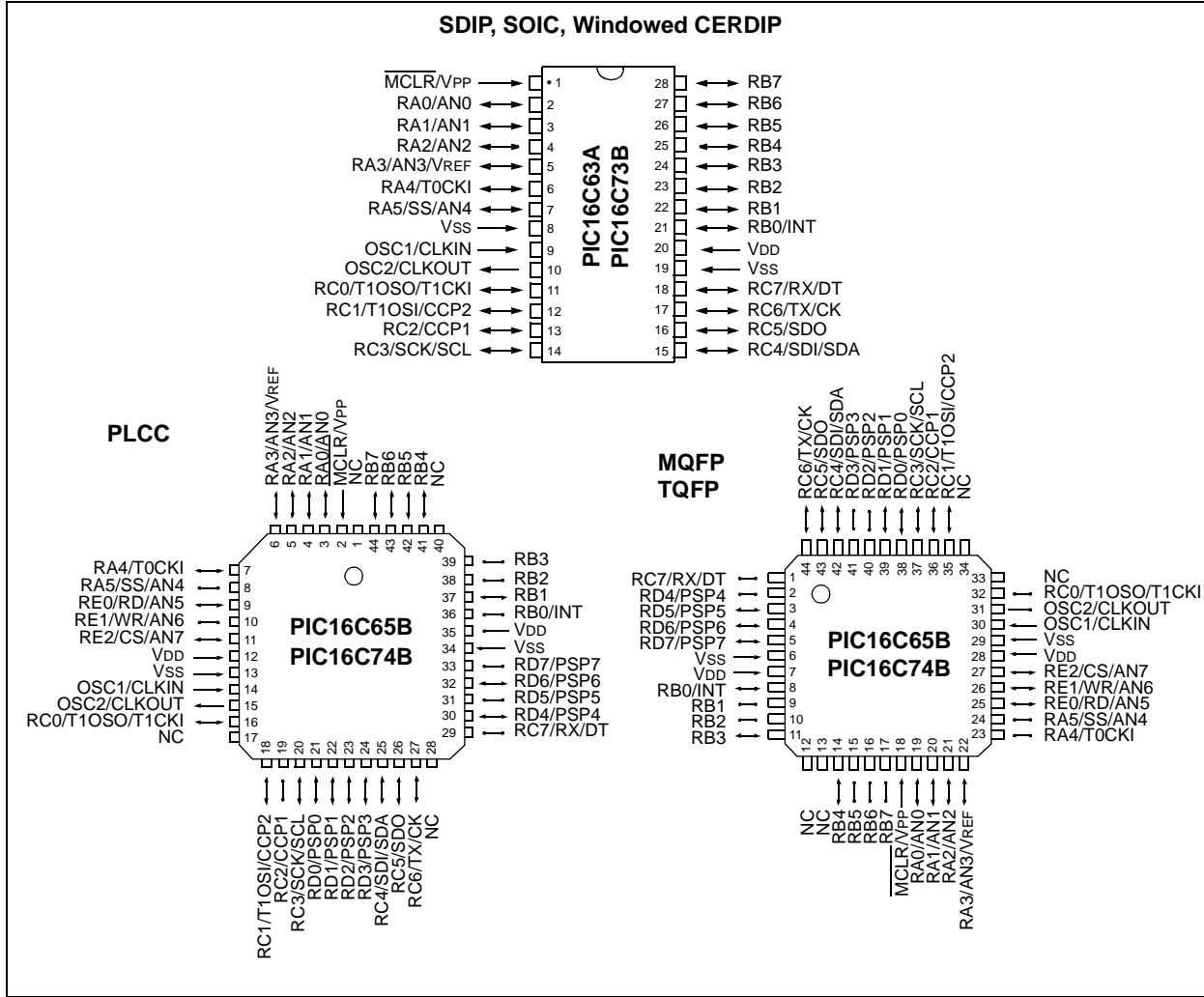
### PIC16C7X Peripheral Features:

- Timer0: 8-bit timer/counter with 8-bit prescaler
- Timer1: 16-bit timer/counter with prescaler can be incremented during SLEEP via external crystal/clock
- Timer2: 8-bit timer/counter with 8-bit period register, prescaler and postscaler
- Capture, Compare, PWM modules
  - Capture is 16-bit, max. resolution is 200 ns
  - Compare is 16-bit, max. resolution is 200 ns
  - PWM max. resolution is 10-bit
- 8-bit multichannel Analog-to-Digital converter
- Synchronous Serial Port (SSP) with SPI™ and I<sup>2</sup>C™
- Universal Synchronous Asynchronous Receiver Transmitter (USART/SCI)
- Parallel Slave Port (PSP), 8-bits wide with external RD, WR and CS controls
- Brown-out detection circuitry for Brown-out Reset (BOR)

### Pin Diagram:



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Key Features PIC® Mid-Range MCU Family Reference Manual (DS33023)	PIC16C63A	PIC16C65B	PIC16C73B	PIC16C74B
Program Memory (EPROM) x 14	4 K	4 K	4 K	4 K
Data Memory (Bytes) x 8	192	192	192	192
Pins	28	40	28	40
Parallel Slave Port	—	Yes	—	Yes
Capture/Compare/PWM Modules	2	2	2	2
Timer Modules	3	3	3	3
A/D Channels	—	—	5	8
Serial Communication	SPI/I <sup>2</sup> C, USART	SPI/I <sup>2</sup> C, USART	SPI/I <sup>2</sup> C, USART	SPI/I <sup>2</sup> C, USART
In-Circuit Serial Programming	Yes	Yes	Yes	Yes
Brown-out Reset	Yes	Yes	Yes	Yes
Interrupt Sources	10	11	11	12
Packages	28-pin SDIP, SOIC, SSOP, Windowed CERDIP	40-pin PDIP; 44-pin PLCC, MQFP, TQFP, Windowed CERDIP	28-pin SDIP, SOIC, SSOP, Windowed CERDIP	40-pin PDIP; 44-pin PLCC, MQFP, TQFP, Windowed CERDIP