

8-Bit CMOS Microcontrollers with A/D Converter Product Brief

Features:

EPROM-Program	RAM Data	I/O	A/D Channel	PWM
2K x 14	128 x 8	22	5	Yes

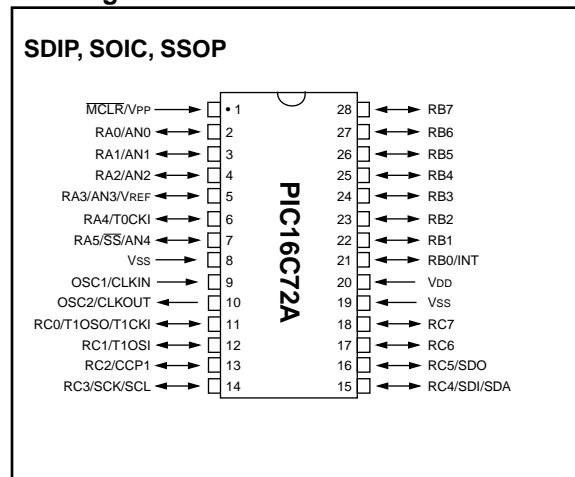
High-performance RISC CPU:

- 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
- 2K x 14 words of EPROM Program Memory, 128 x 8 bytes of Data Memory (RAM)
- Interrupt capability (8 sources)
- Eight level deep hardware stack
- Direct, indirect, and relative addressing modes
- In-Circuit Serial Programming (ICSP™) via two pins
- 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
- Fully static design
- Wide operating voltage range: 2.5V to 5.5V
- High Sink/Source Current 25/25 mA
- Commercial, Industrial and Extended temperature ranges
- Low-power consumption:
 - < 2 mA @ 5V, 4 MHz
 - 15 µA typical @ 3V, 32 kHz
 - < 1 µA typical standby current

Peripheral Features:

- 22 I/O pins with individual direction control
- 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 module
- Capture is 16-bit, max. resolution is 12.5 ns, Compare is 16-bit, max. resolution is 200 ns, PWM max. resolution is 10-bit
- 8-bit 5-channel analog-to-digital converter
- Synchronous Serial Port (SSP) with SPI™ and I²C™
- Brown-out detection circuitry for Brown-out Reset (BOR)

Pin Diagrams





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Microchip received ISO 9001 Quality System certification for its worldwide headquarters, design, and wafer fabrication facilities in January, 1997. Our field-programmable PICmicro™ 8-bit MCUs, Serial EEPROMs, related specialty memory products and development systems conform to the stringent quality standards of the International Standard Organization (ISO).

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