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Fall 2018

Intro to Atmel 328P

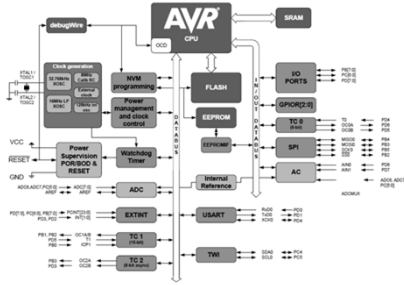
Definitions

- A **microprocessor** is an Integrated Circuit (IC) which has only the Central Processing Unit (CPU) inside it
- A **microcontroller** possess a CPU along with RAM, ROM, and other peripherals (I/O Capabilities) on the same chip.
- Atmega328P is considered a microcontroller

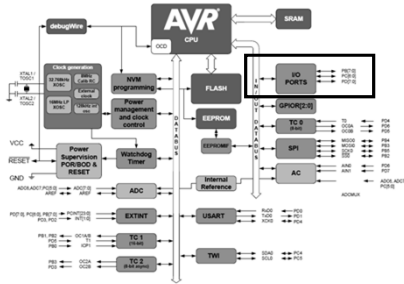
Atmel 328P Documentation

- The diagrams discussed on the following slides are from the main data sheet for the 328 (found [HERE](#)) in section 4 (for the Atmega328P block diagram) and section 11 (for the cpu or AVR Core)

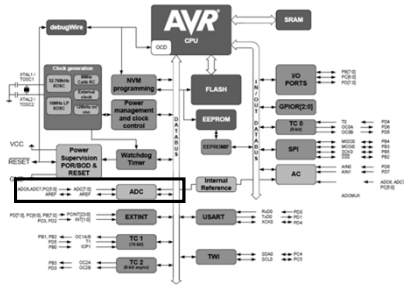
Atmega 328P – Block Diagram



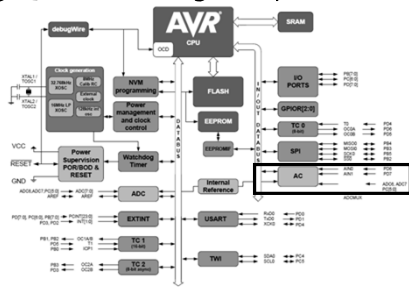
Atmega 328P – General Purpose I/O Ports



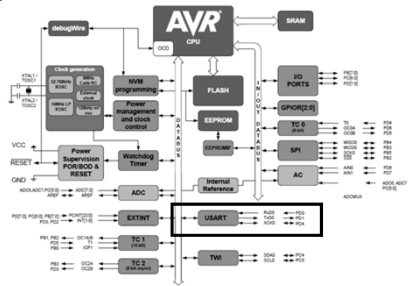
Atmega 328P – Analog to Digital Converter



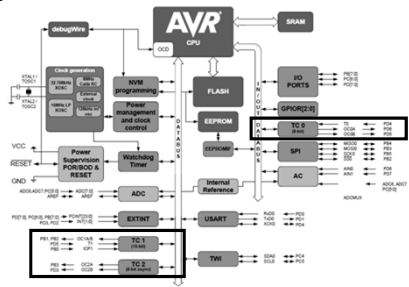
Atmega 328P – Analog Compare



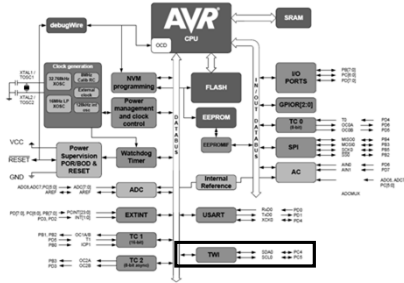
Atmega 328P – USART (COM Port)



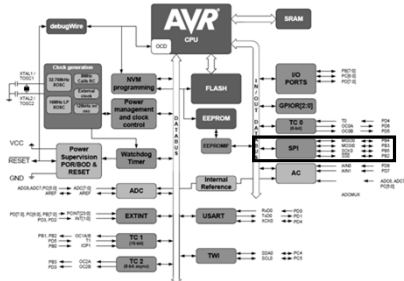
Atmega 328P – Timers



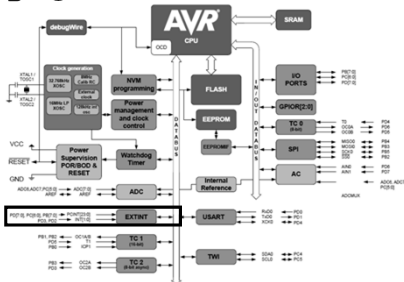
Atmega 328P – TWI (aka I2C)



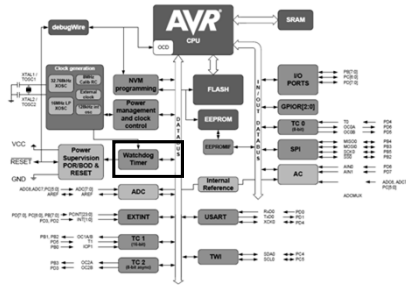
Atmega 328P – Serial Peripheral Interface



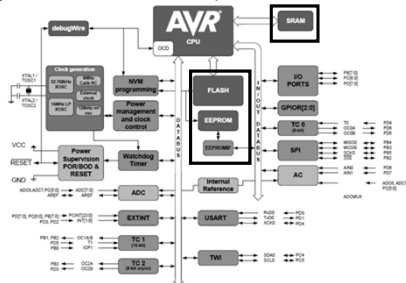
Atmega 328P – External Interrupts



Atmega 328P – Watchdog



Atmega 328P – Memory



Atmega 328P – CPU

