

# CPE 323

## Intro to Embedded Computer Systems

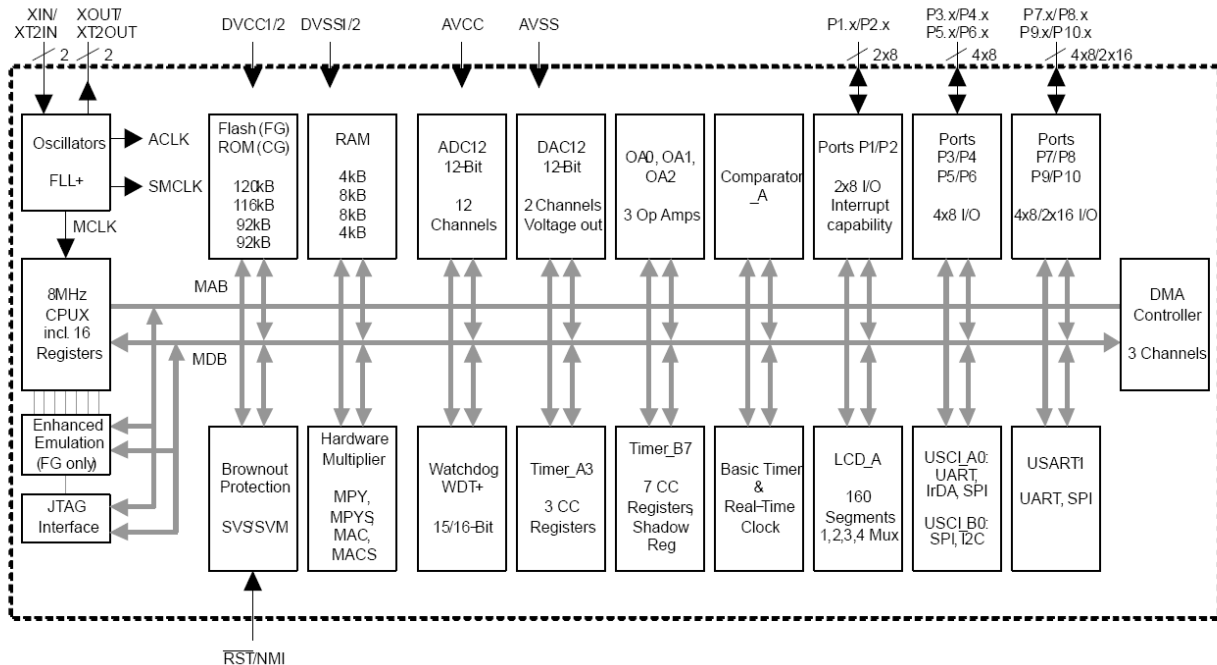
### Serial Communication: I<sup>2</sup>C

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# Admin

# MSP430FG4618 Block Diagram

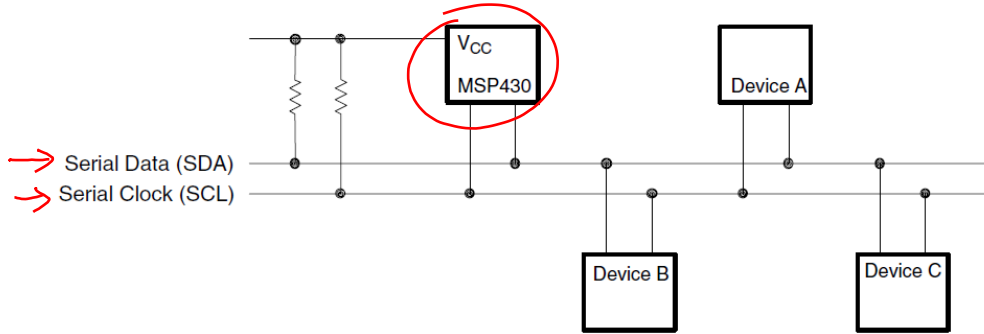


# Characteristics

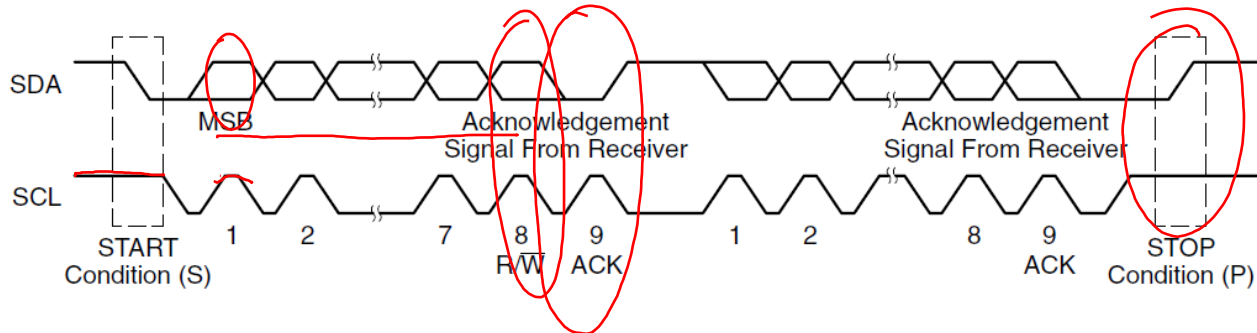
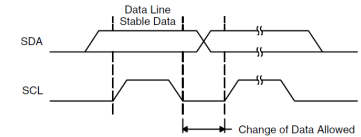
- 2-wired synchronous serial communication interface
  - Serial data: SDA
  - Serial clock: SCLK
- It's a bus
  - multiple devices can communicate
  - each device has its address
- Standardized

# Big Picture

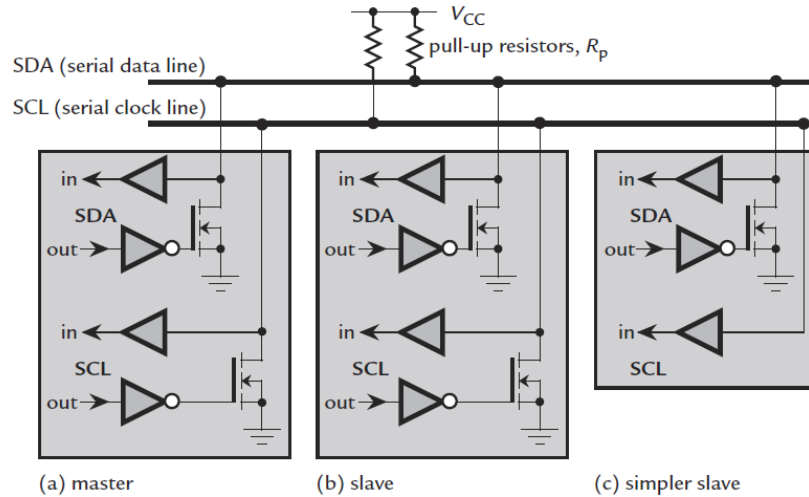
I<sup>2</sup>C - Inter Integrated Circuits (IC)



# Transfer on the Bus



# Hardware View



# Master Reads

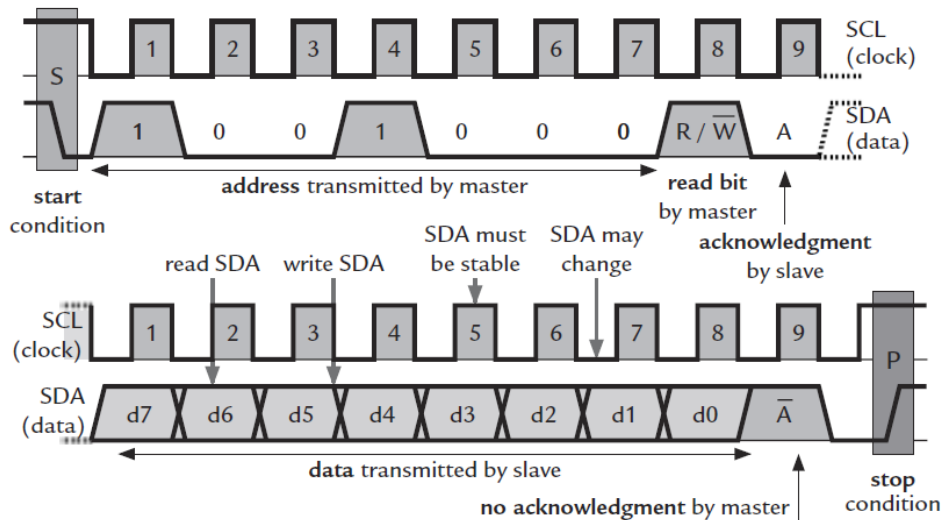




Figure 21–5. I<sup>2</sup>C Module 7-Bit Addressing Format

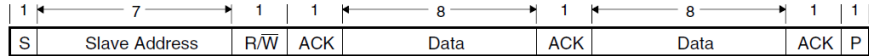


Figure 21–6. I<sup>2</sup>C Module 10-Bit Addressing Format

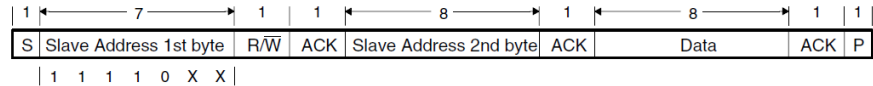


Figure 21–7. I<sup>2</sup>C Module Addressing Format with Repeated START Condition

