

I2C

I2C Master controller Intellectual Property (IP).

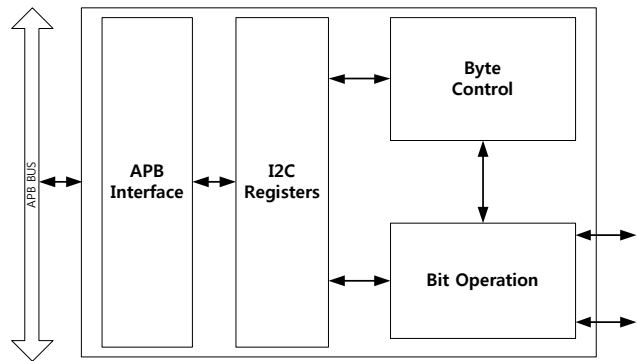
Description

I²C is a two-wire, bi-directional serial bus that provides a simple and efficient method of data exchange between devices. It is most suitable for applications requiring occasional communication over a short distance between many devices. The I²C standard is a true multi-master bus including collision detection and arbitration that prevents data corruption if two or more masters attempt to control the bus simultaneously.

Features

- Multi Master and Slave Operation
- Compatibility with I2C Bus standard
- programmable clock frequency
- Clock Stretching and Wait state generation
- Interrupt or bit-polling driven byte-by-byte data-transfers
- Software selectable acknowledge bit
- Arbitration lost interrupt, with automatic transfer cancelation
- Start/Stop/Repeated Start/Acknowledge generation
- Supports 7 and 10bit addressing mode
- Bus-busy detection
- Operates from a wide range of input clock frequencies
- Support standard mode (100Kbps) , Fast Mode (400Kbps) and High Speed Mode (up to 3.4Mbps)

- Optional AHB,APB and custom bus interfaces



Application area	: I2C Interface
Available documents	: Data Book, Sample program code written by C
Design file formats	: EDIF File Format , VHDL/Verilog Code
Verification	: Verilog Testbench
Simulation tool used	: Model Technology ModelSim™ 6.4