

FEATURES

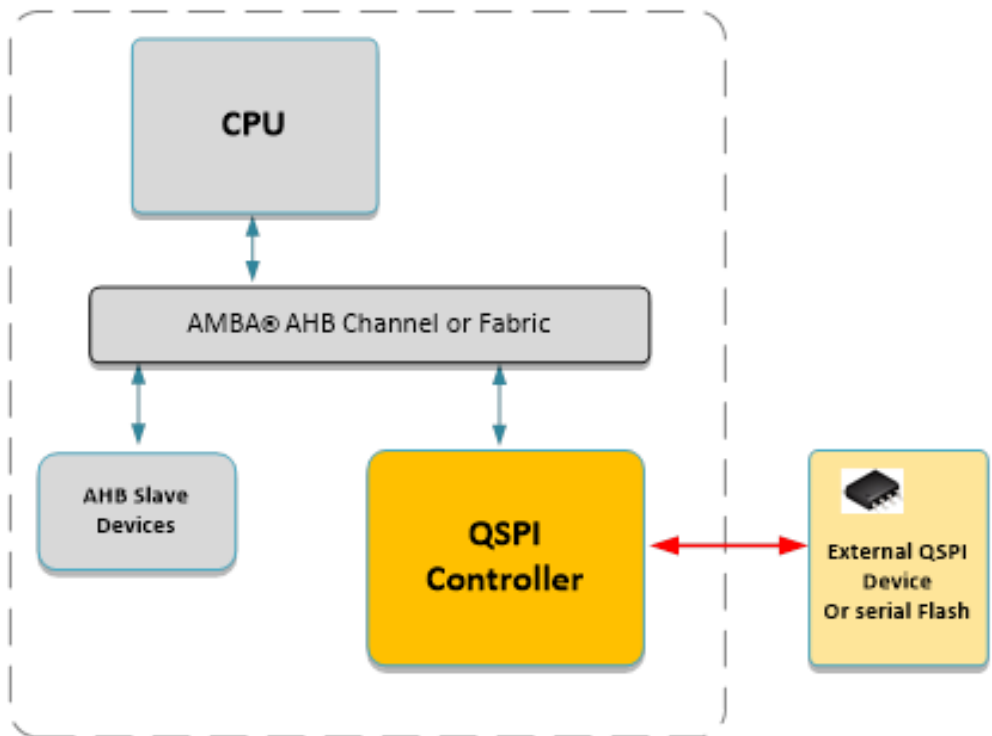
- 4 bit to 32 bit serial transmit & receive
- Full and half duplex modes
- Software programmable Master or Slave mode
- Software programmable SCLK rate for Master mode
- Quad-bit mode operation
- Dual-bit mode operation
- 64 word Tx and Rx FIFOs
- Asynchronous Slave Interface
- AMBA AHB interface
- Interrupt control
- LSB or MSB mode
- Up to 4 slaves under Master control
- DMA Interface
- Compatible with many industry-standard FLASH devices
- Execute-in-place (XIP) functionality for industry-standard FLASH devices

DESCRIPTION

The Quad Serial Peripheral Interface module either controls a serial data link as a master, or reacts to a serial data link as a slave.

The IPC-QSPI-AHB bus controller can be configured under software control to be a master or slave device. Reading and writing the core is done on the AMBA AHB bus interface. The core operates in various data modes from 4 bits to 32 bits (8 modes are supported in multiples of 4 data bits). The data is then serialized and then transmitted, either LSB or MSB first, using the standard 4-wire SPI bus interface or the extended Quad mode bus.

GENERAL USE



You may also be interested in:

AMBA® Subsystems

- Low Power Subsystem (simple AHB system)
- Low Power / Performance Subsystem (includes AHB Multi-matrix Fabric)
- Custom Performance Subsystem (includes AXI Multi-layer Fabric)

IP Cores

Infrastructure Cores

AHB Multi-Matrix Fabric
AHB/AHBLite Channel
AHB Arbiter
AXI Multi-Layer Fabric
AXI to AHBLite Bridge
AXI to APB Bridge
AHB to ABP Bridge
APB Channel

AXI Cores

AXI Multi-Layer Fabric
AXI to AHBLite Bridge
AXI to APB Bridge
AXI External Bus Interface
(Memory/Flash Controller)
AXI Internal Memory Controller
AXI QSPI with Execute in Place (XIP)

AHB Cores

AHB Channel
AHB Multi-Matrix Fabric
AHB to APB Bridge
AHB Arbiter
AHB QSPI with Execute in Place (XIP)
AHB External Bus Interface
AHB Internal SRAM Controller
AHB Interrupt Controller
AHB DMA Controller
AHB DMA 4 Channel Controller
AHB TFT LCD Controller
AHB DES/TDES Encryption/Decryption

AHB Serial Flash Controller
Octal, Quad, Dual and Single Modes

Serial to AHB Bridge
SPI slave to AHB Master
Monitor/Control

APB Cores

APB Channel
APB Quad SPI Controller
APB General Purpose IO
APB Timer
APB UART
APB I2C (Master and Slave)
APB SPI
APB Watchdog Timer
APB Pulse Width Modulator
APB Real Time Clock

General

DES – Digital Encryption Standard
Triple DES (Low Gates)
Triple DES (pipelined)
ADC Interface (semi-custom)
Mixed-Signal Interfaces (semi-custom)
Power Management Unit (semi-custom)

AES Encryption Core

For more information contact



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