External Bus Interface (EBI)

IP Core

IPC-EBI-AHB

FEATURES

- Interfaces AHB bus to external SRAM or Parallel Flash devices
- AMBA® AHB Compatible
- Supports 8bit, 16bit and 32bit external modes
- Supports byte (8bit), halfword (16bit) and word (32bit) internal accesses
- Independent programmable wait states per device interface
- Selects up to 4 external devices

LICENSED IP PACKAGE INCLUDES

- Verilog Source
- Complete Test Environment
- AHB Bus Functional Model
- C-Sample Code

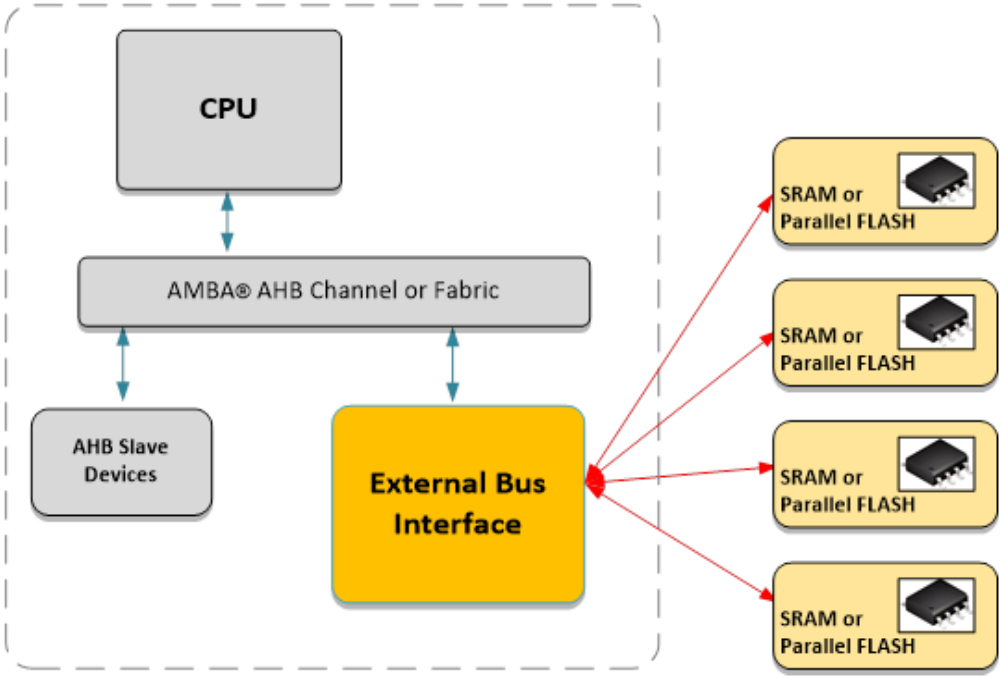
DESCRIPTION

The AHB External Bus Interface (EBI) allows a CPU or AHB Master (such as a DMA core) to transmit and receive data to an external device such as an external SRAM or Parallel Flash device.

The number of read wait states, the number of write wait states, and the memory width are all configurable through the APB register interface of the EBI. The EBI allows word, half-word, and byte width addressing to 32-bit, 16-bit, and 8-bit external devices.

The EBI translates AHB writes and reads into writes and reads for the external device. In order to accomplish this task, the EBI is comprised of five major functional blocks: APB Register Interface, Wait State Generation, Address Generation, Control Signal Generation, and Data Steering.

GENERAL USE



External Bus Interface (EBI)

IP Core

IPC-EBI-AHB

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 ABP 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

sales@socsolutions.com