

USBHS-OTG

USB 2.0 High Speed On-The-Go Controller

COMMON FEATURES

- ◆ Complies with the USB 2.0 specification and the On-The-Go supplement
- ◆ Supports Host Negotiation Protocol and Session Request Protocol
- ◆ Supports Full-Speed and High-Speed data transfer in Peripheral mode
- ◆ Up to 15 IN and 15 OUT configurable endpoints
- ◆ UTMI+ (Level3) or ULPI Transceiver Interface
- ◆ AMBA® AHB, PPCI and Avalon system bus interfaces
- ◆ Suspend and resume power managements functions
- ◆ Remote Wake-Up function

USBHS-OTG-MPD

- ◆ Support for High Speed hubs and USB split transactions
- ◆ Protocol-aware DMA controller
- ◆ No need for external RAM memory

USBHS-OTG-SD

- ◆ Direct access to the endpoint buffers via configurable 16/32 bit slave FIFO interface

OVERVIEW

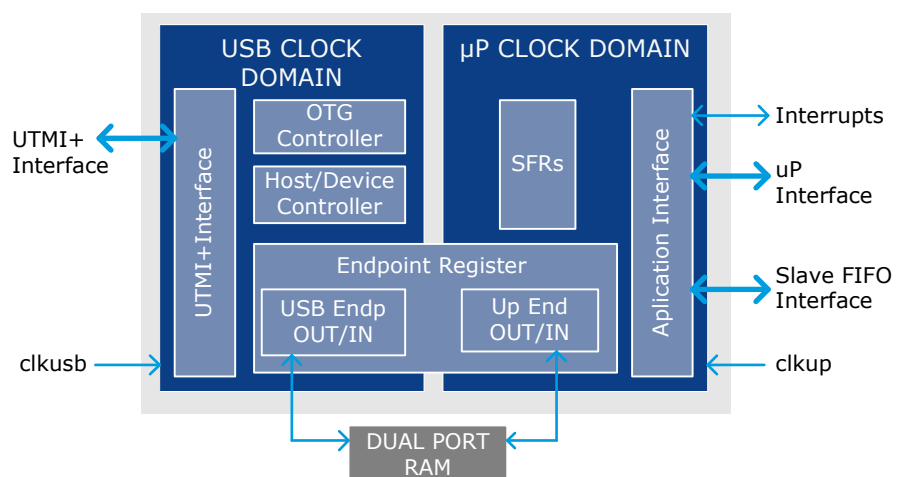
The **USBHS-OTG** is USB 2.0 Dual-role device that meets the 2.0 revision of the USB specification and On-The-Go supplement to the USB 2.0 specification.

The **USBHS-OTG** is delivered in one of two versions: USBHS-OTG-MPD or USBHS-OTG-SD.

The main difference between these versions is the support for Multiple Peripheral Devices (MPD) versus the support for Single Device (SD), hence different names.

The main application area for the USBHS-OTG-SD is point-to-point connection, while the USBHS-OTG-MPD is targeted for more complex multipoint communications.

BLOCK DIAGRAM



USBHS-OTG

BENEFITS

- ◆ A wide range of user configurable features allow customization and optimization for a specific design
- ◆ Graphical User Interface provided for core configuration
- ◆ Software development support including USB-OTG Software Stack and example USB class implementation

CONFIGURABILITY

- ◆ Number, size and type of endpoints
- ◆ Multiple buffering
- ◆ System bus interface
- ◆ PHY interface
- ◆ TX/RX FIFO size (MPD-only)

APPLICATIONS

- ◆ Mass storage applications
- ◆ Audio/Video applications
- ◆ Communication devices
- ◆ Digital Media Controllers

RELATED PRODUCTS

USB-OTG-MPD_SS – USB 2.0 High Speed On-The-Go compatible software stack dedicated to support applications built upon a variety of different microprocessors. Supports USB Host, Peripheral and On-The-Go modes. Designed for applications with or without an operating system.

STANDARD DELIVERABLES

- ◆ VHDL/Verilog source code
- ◆ Synthesis support for Synopsys® tools with a set of synthesis scripts
- ◆ Simulation support for Mentor Graphics® and Cadence® tools with a set of scripts and macros
- ◆ Extensive VHDL/Verilog 2001 test bench
- ◆ Documentation:
 - ▶ Design Specification
 - ▶ Verification Specification
 - ▶ Test Plan
 - ▶ Integration Manual
 - ▶ User Guide
- ◆ 30 days of technical support
- ◆ 90 days of warranty against defects

DELIVERY OPTIONS

- ◆ EDIF netlist for FPGA and low volume production
- ◆ Evaluation system for proprietary **EB5-Tiny** board
- ◆ TLM (transaction-level model) of the controller (MPD-only)
- ◆ One-year maintenance
- ◆ On-site support and training

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