SILVACO

SIPware

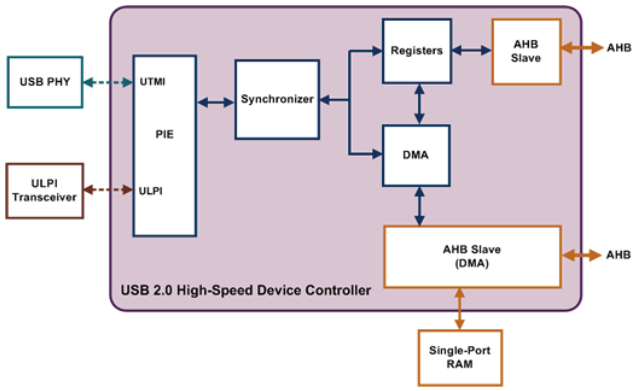
USB 2.0 High Speed Device + Host Controller

DESCRIPTION

The USB 2.0 High-Speed Host and Device Controller is a highly configurable, synthesizable USB core built from silicon-proven technology from NXP Semiconductors.

The core is an extremely low gate count design that provides an efficient USB implementation in cost-sensitive applications.

It integrates with standard UTMI-compliant PHYs or USB ULPI transceivers on USB side and AMBA AHB interfaces on the system side, supporting all major embedded microprocessor cores.



FEATURES

- Compliant to the USB 2.0 specification
- Supports High-Speed (480 Mbps), Full-Speed (12 Mbps), and Low-Speed (Host-only, 1.5 Mbps) operation
- Host and Device functions can switch under software control
- Host is OCHI-compliant
- Two ports available as Host
- DMA engine with connection to AHB interface
- Low gate count (43K gates)
- Various low power features
- Up to 14 non-control logical endpoints
- Bulk, Interrupt, or Isochronous endpoint types
- Maximum packet size 0-1023
- Software-controlled interrupt structure
- Supports single-port RAM for endpoint buffers
- USB buffers can be programmed at the packet or transfer level
- Supported by 3rd-party software (drivers, and so on)
- ndependent AMBA AHB-compliant system interface with separate interfaces for Host and Device functions

HARDWARE CONFIGURATION PARAMETERS

OPTION	RANGE
RAM_ADR_WIDTH	8-15 bits
NUM_ENDPOINTS 0-14	32 or 64 bits
SINGLE_BUFF Yes or No	32 or 64 bits
DOUBLE_BUFF Yes or No	0-14

DELIVERABLES

- VHDL RTL source code (Verilog on request)
- Test bench with test suites
- Documentation including User's Guide and Integration Guide
- Technology-independent synthesis constraints

For more information, please contact us at ip@silvaco.com.

SILVACO

HEADQUARTERS
2811 Mission College Boulevard, 6th Floor
Santa Clara, CA 95054
Phone: 408-567-1000
Fax: 408-496-6080

CALIFORNIA	sales@silvaco.com 408-567-1000
MASSACHUSETTS	masales@silvaco.com 978-323-7901
TEXAS	txsales@silvaco.com 512-418-2929
JAPAN	jpsales@silvaco.com
EUROPE	eusales@silvaco.com
FRANCE	eusales@silvaco.com
KOREA	krsales@silvaco.com
TAIWAN	twsales@silvaco.com
SINGAPORE	sgsales@silvaco.com
CHINA	cnsales@silvaco.com

WWW.SILVACO.COM

Rev 080619_01
70046