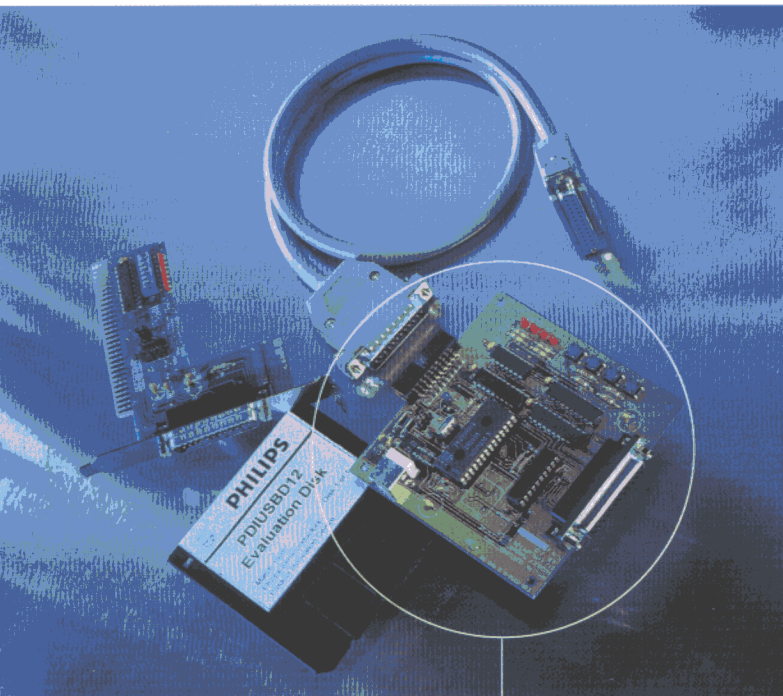


The PDIUSB12 is a high performance, cost and feature-optimized USB interface device. Communicating with a system microcontroller using a high speed general purpose parallel interface, it is easily integrated into existing systems, cutting down development time, risks, and costs, resulting in fast and cost effective development of USB peripheral solutions.

PDIUSB12 high-speed USB peripheral interface

High performance, cost and feature-optimized USB interface device for microcontroller based systems



Features

- Complies with Universal Serial Bus specification Rev. 1.1
- Integrated SIE, 320-byte FIFO, transceiver and voltage regulator
- High-speed (2 Mbytes/s) general purpose parallel interface
- Fully autonomous local DMA for high speed transfer
- Double buffering for main endpoint simplifies real time data transfer and increases throughput
- Low cost 6 MHz crystal oscillator with low EMI
- Controllable LazyClock output during suspend
- Software controllable connection to the USB (SoftConnect™)
- Indicator blinks to indicate a good USB connection (GoodLink™)
- Programmable clock frequency output
- Internal power-on reset and low voltage reset circuit
- Operates with dual voltage 3.3 V and extended USB voltage (3.6 V to 5.5 V)
- Full industrial grade operation from -40 to +85 °C
- ESD protection of over 8 kV lowers cost of extra components
- DIP28, SO28 and TSSOP28 packages

Philips Semiconductors' PDIUSB12 USB interface device is designed for use in microcontroller-based systems. This modular approach to implementing a USB interface allows the designer to choose the optimum microcontroller for the system from the wide variety available and allows the use of existing architecture and firmware investments.

Fully conforming to the USB specification Rev. 1.1, it is compliant with most device class specifications: Imaging Class, Mass Storage Devices, Communication Devices, Printing Devices, and Human Interface Devices. This makes it ideal for a wide variety of peripherals including printers, scanners, external mass storage devices (Zip drives), digital still cameras, etc., and offers an immediate cost reduction for SCSI implementations.

Low suspend power consumption along with the LazyClock output make it simple to design equipment compliant to the ACPI, OnNOW and USB power management requirements.

The low operating power also allows the implementation of bus-powered peripherals. In addition, features like SoftConnect™, GoodLink™, a programmable clock output and low frequency crystal oscillator contribute to significant overall system cost savings and simplify the task of integrating advanced USB functionality into peripherals.

Evaluation kit

An evaluation kit is available for the PDIUSB12. It requires a host PC with USB capability and a separate device PC running the D12 firmware. The D12 ISA bridging board is inserted into the device PC and connects to the evaluation board using a 25-wire cable, allowing the user to evaluate easily all the PDIUSB12's features without being limited by the resources of a microcontroller.

Let's make things better.



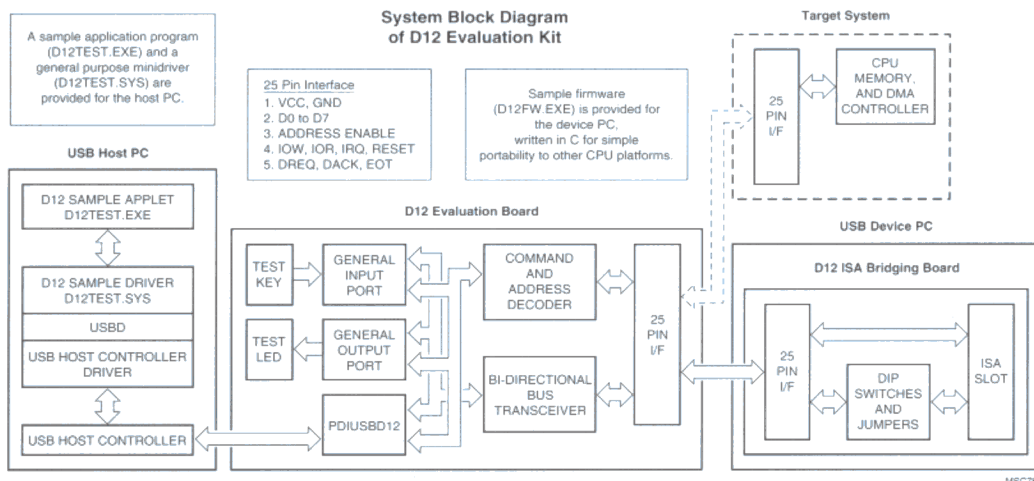
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A test application and general-purpose driver running on the host PC tests all the D12's endpoints and to verify data integrity and transfer rate performance, the test application has three test modes for the endpoints: loop-back, print and scan.

Firmware on the device PC supports all the D12's features and transfer modes. Fully interrupt driven, it supports DMA transfer and has been developed for high rate data transmission.

Written in C, the software is readily portable to other CPU platforms and customers can connect the evaluation board to their own CPU and bus through the 25-wire cable.

For more information on the D12 Evaluation Kit please contact Philips local sales office or visit Philips USB web site: www.semiconductors.philips.com/usb/



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