

SuperSpeed USB 3.0 Transceiver Offers Over 10x USB 2.0 Speed



Texas Instruments (TI) today introduced a SuperSpeed USB (USB 3.0) transceiver capable of data transfers up to 10 times the speed of current USB 2.0 technology. Featuring receiver sensitivity that is twice as good as required by the USB 3.0 specification, the TUSB1310's PIPE3 and ULPI interfaces enable USB 3.0 functionality when used in conjunction with the integrated application processor digital cores. The 5-gigabits-per-second (Gbps) USB 3.0 physical layer transceiver operates from a single crystal or external reference clock with selectable frequencies from 20, 25, 30 and 40 MHz. This allows the TUSB1310 to provide a cost-effective USB 3.0 solution with few external components and minimum implementation cost. For more information or to order samples, see www.ti.com/tusb1310-pr.

"End users are demanding the ability to store huge photo and high-definition video files on their portable consumer devices with ease and speed," said Steve Anderson, senior vice president over TI's High-Performance Analog business unit. "The TUSB1310 is capable of completing data transfers of a 27 Gigabit Blu-ray disc in less than 90 seconds, versus nearly 15 minutes with USB 2.0. Using TI's complete SuperSpeed USB portfolio, engineers can design faster, more cost-effective and user-friendly consumer products for today and in the future."

The TUSB1310 supports many applications, including surveillance cameras, multimedia handsets, smartphones, digital still cameras, portable media players, personal navigation devices, audio docks, video IP phones, wireless IP phones and software defined radios. TI offers the industry's most expansive portfolio of SuperSpeed USB devices. Key available devices are the SN65LVPE502, a dual-channel USB 3.0 redriver/equalizer; the TPD2EUSB30, a two-channel ESD solution for SuperSpeed USB 3.0 interface; and the highly accurate TPS25xx series of USB power switches. Future offerings include peripherals, bridges, hubs, and hosts.

Key features and benefits

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- Receiver sensitivity of less than 50 mV differential peak-to-peak for detecting weak signals is twice as good as the specification requirement, allowing use of longer cables and easing board layout challenges.
- Flexible, integrated spread-spectrum clocking can reduce BOM cost by five percent or more.
- Industry-standard link layer interfaces (PIPE3 for USB 3.0 & ULPI for USB 2.0 compatibility) enable easy system integration to a wide variety of attached digital cores.

Availability and packaging

The TUSB1310, TPD2EUSB30 and SN65LVPE502 are available now from TI and its authorized distributors. The TUSB1310 is packaged in a 175BGA and pricing starts at \$6.00 in 1,000-unit quantities; the TPD2EUSB30 is packaged in a SOT (DRT) and pricing starts at \$0.15 in 1,000-unit quantities; and the SN65LVPE502 is packaged in a QFN and pricing starts at \$4.25 in 1,000-unit quantities.

Learn more about TI's interface portfolio at the links below:

- Order TUSB1310 samples: www.ti.com/tusb1310-pr [1].
- See a real-time download comparison between USB 3.0 and USB 2.0: www.ti.com/usb3video-pr [2].
- Quickly search TI's entire interface portfolio or download the latest selection guide: www.ti.com/interface-pr [3].

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Links:

[1] <http://www.ti.com/tusb1310-pr>

[2] <http://www.ti.com/usb3video-pr>

[3] <http://www.ti.com/interface-pr>