

PRODUCT BRIEF

SWITCHING SOLUTIONS

PI3USB31532

USB 3.1 Gen 2/Display Port 1.3 Crossbar Switch for Type-C™

Description

Pericom Semiconductor's PI3USB31532 is a 6:4 differential channel bi-directional Crossbar switch solution for switching USB3.1 Gen1/Gen2 and/or DP1.2/DP1.3 signals through USB3.0 Type-C™ connector.

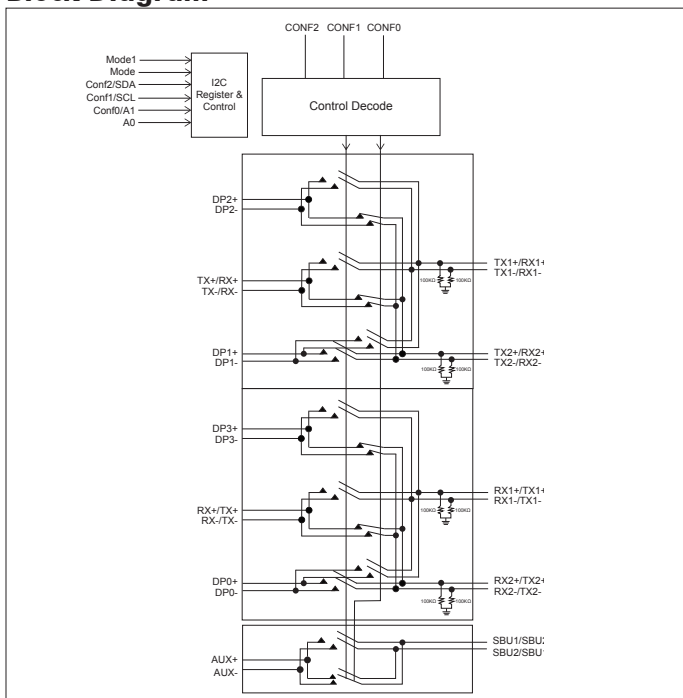
It multiplexes either 1 lane of USB3.1 Gen1/Gen2, 1 lane of USB3.1 Gen1/Gen2 and 2 channels of DP1.2/1.3 or 4 channels of DP1.2/DP1.3 to the USB Type-C™ connector.

In addition, AUXHPD channels are also multiplexed to the USB Type-C connector. PI3USB31532 offers excellent signal integrity for high-speed signals and low power dissipation. Insertion loss is -1.7dB and return loss is -15dB at 10Gb/s speed of USB3.1.

Applications

- ➔ Routing USB3.1 Gen1/Gen2 SuperSpeed and DP1.2/DP1.3 signals through the USB Type-C Connector.
- ➔ Applications include Ultrabook, 2 in 1 Notebook, Tablet
- ➔ Mobile Workstation, All In One PC, Monitor, Docking Station, Smart Phone

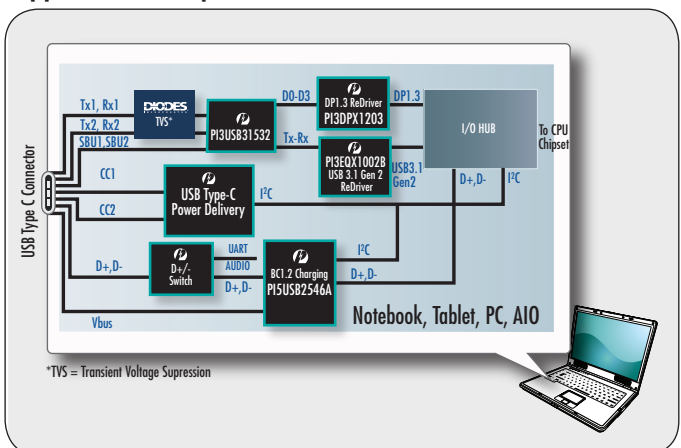
Block Diagram



Features

- ➔ 6 Differential Channel to 2/4 Differential Channel Crossbar switch
- ➔ USB 3.1 Gen2 10Gb/s Super Speed and DP 1.3 8Gb/s switching to USB Type-C™ connector
- ➔ Supports either pin control or I²C control to configure the mux
- ➔ Low insertion loss: -1.8dB @ 10Gb/s
- ➔ Return loss: -17dB @ 10Gb/s
- ➔ CrossTalk: -38dB @ 10Gb/s
- ➔ Off Isolation: -18dB @ 10Gb/s
- ➔ -3dB Bandwidth: 8GHz
- ➔ Multiplexes one of the following to USB Type-C™ connector: USB3.1 Gen1/Gen2 signal only
- ➔ One lane of USB3.1 Gen1/Gen2 signal and 2 channels of DP1.2/DP1.3 or 4 channels of DP1.2/DP1.3 signal.
- ➔ With DP1.2/DP1.3 operating, AUX+ and AUX- are muxed to SBU pins. Max swing on SBU pins are from -0.35V to 3.95V
- ➔ 3.0V to 3.6V Power Supply.
- ➔ Industrial Temperature Range: -40°C to 85°C
- ➔ Packaging (Pb-free & Green)
- ➔ 40- contact, TQFN (3 x6mm)

Application Example



*TVS = Transient Voltage Suppression

Pericom's USB Type-C Host in a Notebook Application

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