

PI3USB31532

3.3V, USB Type-C™ USB3.1 Gen2/DP1.4 6:4 Crossbar Switch

Description

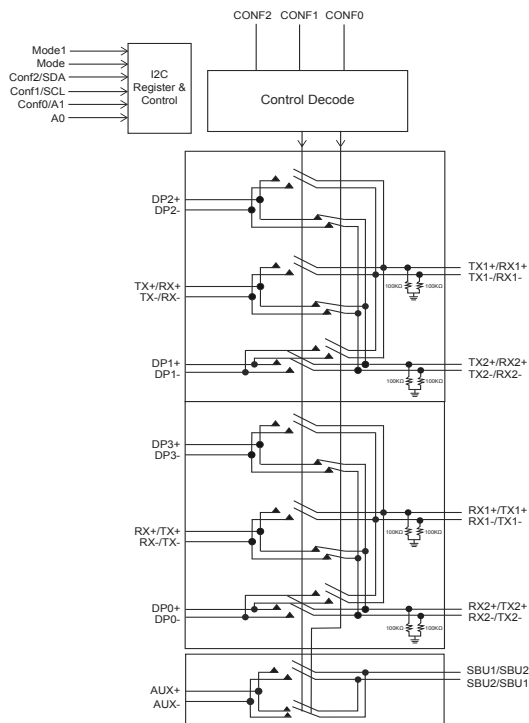
The PI3USB31532 is a 6:4 differential channel bi-directional Crossbar switch solution for switching USB3.1 Gen1/Gen2 and/or DP1.2/DP1.4 signals through USB3.0 Type-C™ connector. It multiplexes either 1 lane of USB3.1 Gen1/Gen2, 1 lane of USB3.1 Gen1/Gen2 and 2 channels of DP1.2/1.4 or 4 channels of DP1.2/DP1.4 to the USB Type-C™ connector.

In addition, AUX+/- channels are also multiplexed to the 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/DP1.4 signals through the USB Type-C™ Connector.
- Applications include Ultrabook, 2 in 1 Notebook, Tablet, Mobile Workstation, All In One PC, Monitor, Docking Station, Phone

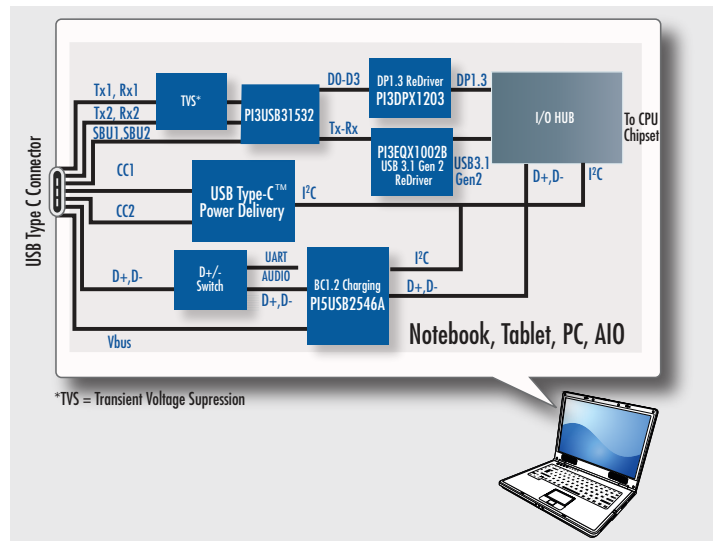
Block Diagram



Features

- 6 Differential Channel to 2/4 Differential Channel Crossbar switch
- USB 3.1 Gen2 10Gb/s Super Speed and DP 1.4 8Gb/s switching to USB Type-C™ connector
- Supports either pin control or I²C control to configure the mux
- Low insertion loss: -1.7dB @ 10Gb/s
- Return loss: -15dB @ 10Gb/s
- CrossTalk: -38dB @ 10Gb/s
- Off Isolation: -22dB @ 10Gb/s
- -3dB Bandwidth : 8.3GHz
- 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/DP1.4 or 4 channels of DP1.2/DP1.4 signal.
- With DP1.2/DP1.4 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 Diagram



*TVS = Transient Voltage Suppression