

PI3USB3200

3.3V, USB3.1 Gen2 and USB2, 3:2 Mux/DeMux

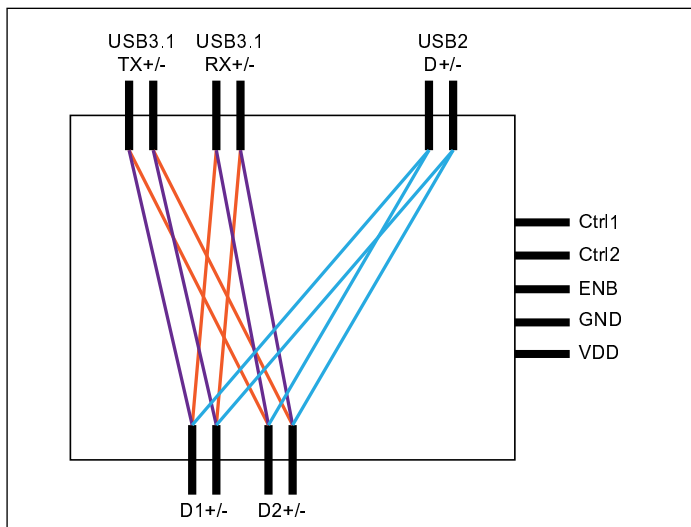
Description

Diodes' PI3USB3200 is a 3-to-2 differential channel multiplexer/demultiplexer switch. This solution can switch multiple signal types up to data rate of 10Gbps. Using a unique design technique, Diodes is able to optimize the impedance and capacitance of the switch where the attenuation observed through the switch is minimal. The wide-input voltage range and protection features enable mixed analog signal design on USB legacy or USB Type-C connector. The unique design technique also offers a layout targeted for USB2.0, USB3.1 signals, which minimizes the channel-to-channel skew as well as channel-to-channel crosstalk as required by high-speed signals.

Applications

- Routing High-Speed Differential Signals, such as USB3.1 Gen2, USB2.0 in VR Application

Block Diagram



Features

- Differential Channel, 3:2 Mux/DeMux
- Up to 10Gbps for Applications Including USB2.0, USB3.1 Gen2
- Bidirectional Operation
- 3dB Bandwidth: 7.0GHz
- Low Bit-to-Bit Skew, 5ps typ
- Low Channel-to-Channel Skew, 10ps typ
- Low Insertion Loss: -2.4dB @ 5GHz
- Return Loss: -10dB @ 5GHz
- Low-Power Consumption 50µA typ
- Supply Voltage 2.7V to 4.0V
- Support Overvoltage Protection
- Protection Feature
 - Ioff Protection for Current Leakage in Power-Down Mode
 - D1, D2 Pins Tolerance to 5.5V
- ESD Performance
 - 2KV (HBM) and 1KV (CDM)
- Operating Temperature Range: -40°C to 85°C
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Packaging (Pb-free & Green):
 - 24-contact, TQFN(ZR24), 2.5mm × 2.5mm, 0.75mm(H), 0.35mm Pitch
 - 20-contact, TQFN (ZBB20), 2.5mm × 4.5mm, 1mm(H) 0.5mm Pitch