

PI3DPX1205A1

10Gbps Type-C DP-Alt DP1.4/USB3.1 Gen2 6:4 Linear ReDriver with built-in Aux/SBU Switch

Features

- Flexible DP 1.4 / USB 3.1 Gen 2 Type-C switching for DP-Alt
- Output
- Latency-free DisplayPort redriver for variable video frame rate control
- DP1.4 (8.1 Gbps) and USB3.1 Gen 2 (10 Gbps) standard compliant
- Receiver equalization, Flat gain, -1dB compression Output swing for each DP/USB mode.
- Non-blocking ultra low latency Linear Re-Driving with transparent DisplayPort Link Training support
- Built-in control logic for Type-C plug/unplug normal and flipping orientations with I2C programming mode
- Slave I2C mode speed up to 1MHz
- Single Power Supply : 3.3V
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative.
<https://www.diodes.com/quality/product-definitions/>
- Packaging (Pb-free & Green):
 - 40-contact, TQFN (ZLB), 4mm × 6mm

Description

The PI3DPX1205A1 is the USB Type-C DP-Alt DP1.4/USB3.1 Gen2 6:4 Linear Redriver supporting DP Link-Training Transparent for Source-side application. The device is compliant to the VESA DP Alt 1.4 and USB 3.1 Gen 2 industry standard.

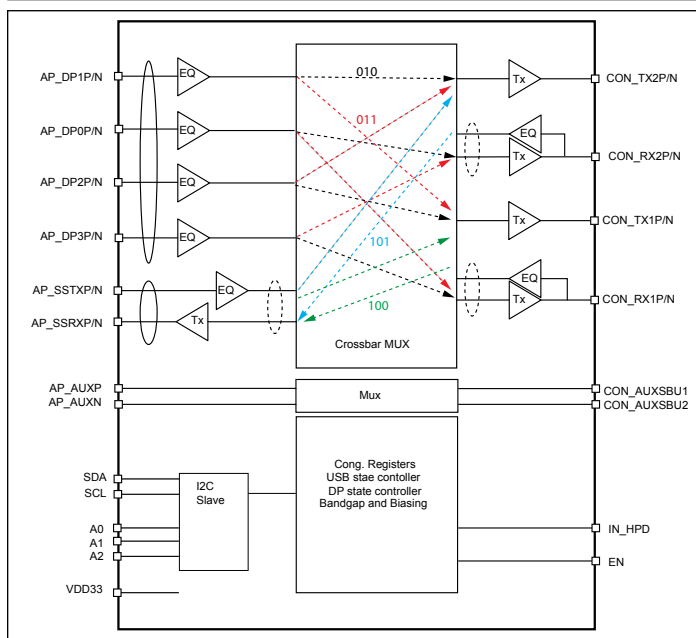
Each of the DP1.4 and USB3.1 Gen2 differential signals can be easily adjustable with equalization, output swing and gain values by the I2C control setting. It can optimize the DP/USB 10Gbps signal performance over a variety of physical mediums by reducing Inter-symbol interference jitters.

Non-blocking Linear Redriver provides better additive jitter performance than the conventional CMOS Limiting Redriver. Linear Equalization does not block the Receiver DFE's adaptive channel controls, supporting DisplayPort Transparent LT(Link Training) without dependency of the DP-Aux channels listener.

Applications

- Notebook, Desktop, AIO PCs
- Tablets and Mobile Devices
- Docking, Embedded Systems

Block Diagram



Ordering Information

Part Number	Package	Description
PI3DPX1205A1ZLBEX	ZLB	40-Contact, Very Quad Flat No-Lead (TQFN) (4x6mm)

Notes:

1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. E = Pb-free and Green
5. X suffix = Tape/Reel