A Product Line of
Diodes Incorporated

PI3DPX1205A1

10Gbps Type-C DP-Alt DP1.4/DP2.1 (UHBR10) USB3.2 Gen2 6:4 Linear ReDriver with built-in Aux/SBU Switch

Features

- Flexible DP1.4/DP2.1 (UHBR10) USB3.2 Gen2 Type-C® switching for DP-Alt Output
- Latency-free DisplayPort ReDriver™ for variable video frame rate control
- DP1.4 (8.1Gbps), DP2.1 (10Gbps) and USB3.2 Gen2 (10Gbps) 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
- Industrial Temperature Range: -40°C to 85°C
- 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-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative.
  https://www.diodes.com/quality/product-definitions/

Application(s)

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

Description

The DIODES™ PI3DPX1205A1 is the USB Type-C DP-Alt DP1.4/DP2.1 (UHBR10) USB3.2 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 3.2 Gen 2 industry standard.

Each of the DP1.4/DP2.1 (UHBR10) and USB3.2 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.

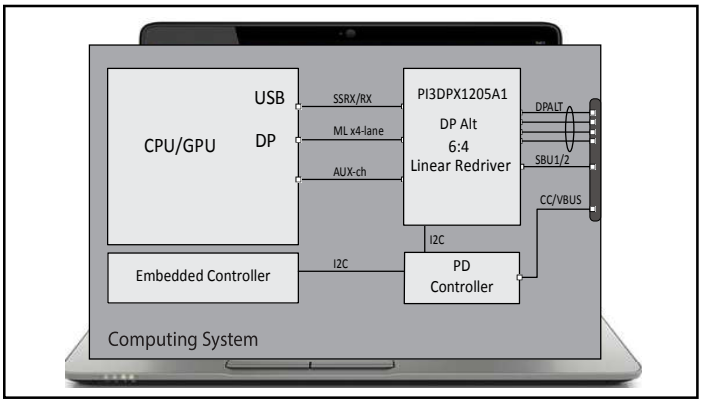

Figure 1-1 Computing System Application Diagram

Ordering Information

Ordering Number	Package Code	Package Description
PI3DPX1205A1ZLBEX	ZLB	40-Contact, Very Quad Flat No-Lead (TQFN) (4x6mm), Industrial Temperature

Notes:
- E = Pb-free and Green
- X suffix = Tape/Reel

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.