



USB Type-C USB 3.2 and DP 1.4 Linear ReDriver with Built-In DP Aux Listener and Mux

The PI3DPX1207B1 is the latest ReDriver product supporting USB Type-C® port operation for 10Gbps USB 3.2, and 8.1Gbps DisplayPort 1.4 standards in commercial and industrial temperature operation ranges.

The PI3DPX1207B1 is in 4:4 channel configuration supporting CPUs with integrated USB/DP crossbar switch. The ReDriver is transparent to channel link training and performs ultra-low signal latency to achieve sound signal integrity and system compatibility.

The device has programmable CLTE equalization, flat gain, and output swing linearity controls. These compensate the channel loss and remove ISI jitter for longer channel reach.

With its built-in AUX listener, this device can monitor the DisplayPort traffic for automatic channel configuration and power saving.

PI3DPX1207B1ZHEX has a 0°C to +70°C range, while PI3DPX1207B1ZHIEX works over 0°C to +85°C.

USB Type-C is a registered trademark of USB Implementers Forum.



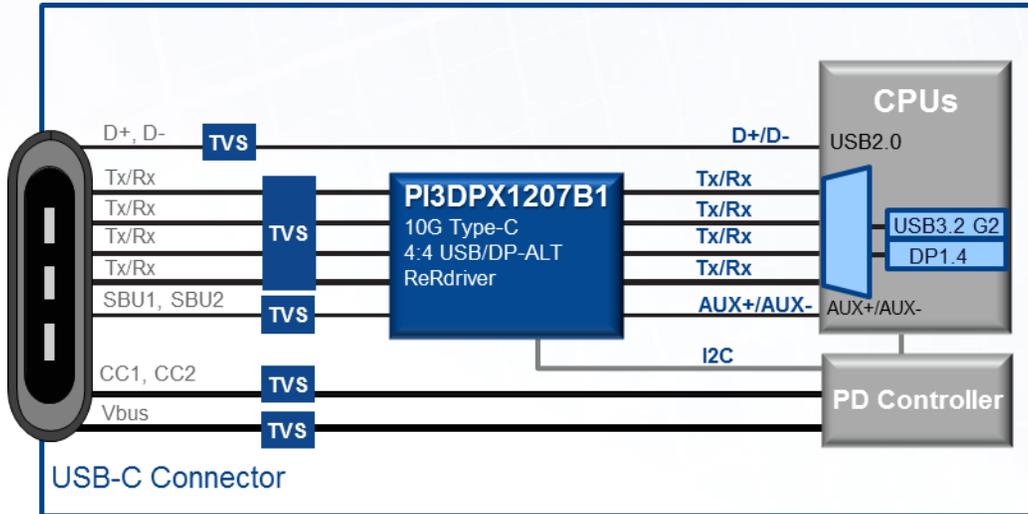
The Diodes Advantage

- **Flexible Type-C USB 3.2/DP Alt-Mode Operations**
USB 3.2 Gen 2x2, USB 3.2 Gen 2, 2-lane DP 1.4, and 4-lane DP 1.4 modes
- **High-Speed Signal Integrity Settings**
Receiver Side CLTE, Output Side Flat Gain, and Swing Linearity Settings
- **Programmable and Flexible Controls**
I²C or Pin-Strapping Control
- **Auto Power-Saving Modes for both USB and DP**
USB U2/U3 and DP D3 Power Saving Modes with Built-in AUX Listener
- **Transparent and Ultra-Low Latency Linear ReDriver Channels**
Provides Signal Integrity and Compatibility for System Design

Applications

- Laptop, Desktop, and AIO PCs
- Docking Stations
- Tablets and Mobile Devices
- PC Peripherals
- Virtual Reality Devices
- Active Cables

Typical Application Circuit



Product Portfolio

Part Number	Operation Voltage	Channels	Data Rate (Gbps)	Lanes/Ports	Output Swing Max (mV)	Programming Interface(s)	Operation Temperature	Packages
PI3DPX1207B1ZHEX	3.3V	4	10	4	1200	I ² C or Pin-Strapping	0 ~ +70°C	40-Pin TQFN
PI3DPX1207B1ZHIEX	3.3V	4	10	4	1200	I ² C or Pin-Strapping	0 ~ +85°C	42-Pin TQFN

Ordering Information

Ordering Number	Package Code	Package Description
PI3DPX1207B1ZHEX	ZH	42-Pin, Very Thin Quad Flat No-Lead (TQFN) (3.5 x 9 mm)
PI3DPX1207B1ZHIEX	ZH	I-temp, 42-pin, Very Thin Quad Flat No-Lead (TQFN) (3.5 x 9 mm)

Further Information

PI3DPX1207B1: <https://www.diodes.com/part/PI3DPX1207B1>