

10Gbps USB Type-C USB3.1 Gen2/DP1.4 Linear ReDriver with Built-in DP Aux Listener and Mux

PI3DPX1205A and PI3DPX1207B are the latest linear ReDriver products from Diodes supporting USB Type-C™ port operation for 10Gbps USB3.1 Gen2, and 8.1Gbps Displayport 1.4 standards.

PI3DPX1205A is 6:4 channel configuration and PI3DPX1207B is 4:4 channel configuration, covering all CPU or application processor designs.

Both provide programmable CLTE equalization, Flat Gain and Swing controls for channel loss compensation to remove ISI jitter and extend channel reach.

The design is transparent to channel link training and performs ultra-low signal latency to achieve good signal integrity performance and system compatibility.

The built-in AUX Listener can monitor the DisplayPort traffic for automatic channel configuration and power saving.

PI3DPX1205A also supports Intel DCI test signals via Type-C connector.

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



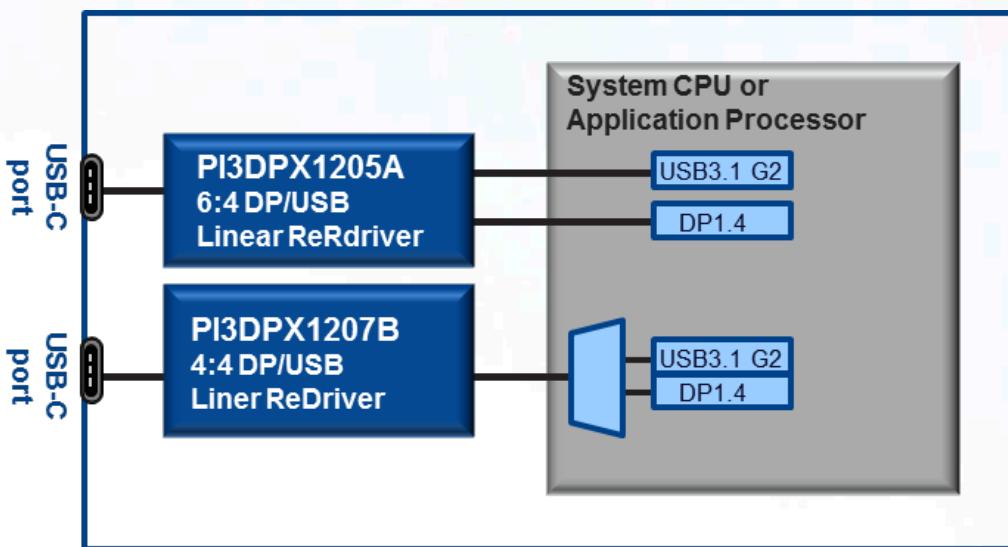
The Diodes' Advantage

- **Flexible DP 1.4/USB 3.1 Gen 2 Type-C Switching for DPAlt Output**
Supports USB3.1 Gen2, USB3.1 Gen2/2-lane DP1.4 and 4-lane DP1.4 modes
- **High Speed Signal Integrity Settings**
Supports receiver side CLTE and output side Flat Gain and Swing settings
- **Programmable and Flexible Controls**
I2C control for both devices. Pin-strapping option for PI3DPX1207B
- **Auto Power Saving Modes for both USB and DP**
USB U2/U3 power saving modes and DP D3 mode with built-in AUX Listener
- **Transparent and Ultra Low Latency Linear ReDriver Channels**
Performs good signal integrity and compatibility for system design

Applications

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

Typical Application Circuit



Product Portfolio

| Part No | Operation Voltage | Channels | Data Rate (Gbps) | Lanes/Ports | Output Swing Max(mV) | Programming Interface(s) | Operation Temperature | Packages |
|-------------|-------------------|----------|------------------|-------------|----------------------|--------------------------|-----------------------|-------------|
| PI3DPX1205A | 3.3V | 6 | 10 | 4 | 1200 | I2C | 0 ~ +70°C | 40-pin TQFN |
| PI3DPX1207B | 3.3V | 4 | 10 | 4 | 1200 | I2C and Pin-Strapping | 0 ~ +70°C | 42-pin TQFN |

Ordering Information

| Ordering Number | Package Code | Package Description |
|-------------------|--------------|---|
| PI3DPX1205A1ZLBEX | ZLB | 40-pin, Very Thin Quad Flat No-Lead (TQFN) (4.6x0.75mm) |
| PI3DPX1207BZHEX | ZH | 42-pin, Very Thin Quad Flat No-Lead (TQFN) (3.5x9.0x0.75mm) |

Further Information

<https://www.diodes.com/part/PI3DPX1205A>
<https://www.diodes.com/part/PI3DPX1207B>