



New Product Announcement

PI2DPX2020
PI2DPX2023
PI2DPX2063

1.8V 20Gbps USB4/Thunderbolt4/DP2.0 (UHBR20) Linear ReDrivers for Mobile and PC Applications

The DIODES™ PI2DPX2020 is a high performing 1.8V Linear ReDriver™ product supporting 20Gbps USB4 Type-C® single or dual port operation and provides flexible modes of operation, enabling additional protocols, including Thunderbolt™4 and DisplayPort 2.0 (UHBR20).

The DIODES™ PI2DPX2023 and the DIODES™ PI2DPX2063 are 1.8V four-lane DisplayPort 2.0 (UHBR20) linear ReDrivers with maximum data rates (up to 20Gbps) per lane, supporting various DisplayPort transmission modes.

These ReDrivers are transparent to channel link training and have ultra-low signal latency, enabling good signal integrity and system compatibility. They have programmable equalization gain and flat gain controls through pin strap for PI2DPX2023, and through I2C for PI2DPX2020 and PI2DPX2063. These compensate for channel loss and remove ISI jitter for longer channel reach. PI2DPX2020 supports AUX crossbar function for flip function at the connector.

With built-in AUX listeners, the devices monitor the DisplayPort traffic for automatic channel configuration and power saving. AUX crossbar mux enables flipping at the output.

The PI2DPX2020, PI2DPX2023, and PI2DPX2063 are available in the W-LGA4528-32 package.

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The DIODES™ Advantage

1.8V 20Gbps USB4/Thunderbolt4/DP2.0 (UHBR20) Linear ReDrivers.

- **PI2DPX2020 Provides Flexible USB Type-C DP-Alt Mode Operation at up to 20Gbps**
 USB4 Gen3 x1/x2, Thunderbolt4 (x1 or x2), USB4 Gen2 x1/x2, USB4 Gen2/ two lanes of DisplayPort 2.0 (UHBR20/UHBR13.5/UHBR10) or four lanes of DisplayPort 2.0 (UHBR20/UHBR13.5/UHBR10)
- **PI2DPX2023/PI2DPX2063 Support All VESA DisplayPort Transmission Modes**
 RBR (1.62Gbps), HBR (2.7Gbps), HBR2 (5.4Gbps), HBR3 (8.1Gbps), and UHBR10/13.5/20 (10/13.5/20Gbps)
- **Tunable Signal Integrity Through Pin Strap for PI2DPX2023, and I2C for PI2DPX2020/PI2DPX2063**
 Receive equalizer, transmit flat gain settings
- **Very Thin and Small W-LGA4528-32 Package**
 2.85mm x 4.5mm x 0.7mm, 0.4mm pitch
- **Auto Power Saving Modes for Both USB and DP**
 USB U2/U3 and DP D3 power saving modes with built-in AUX listeners

Applications

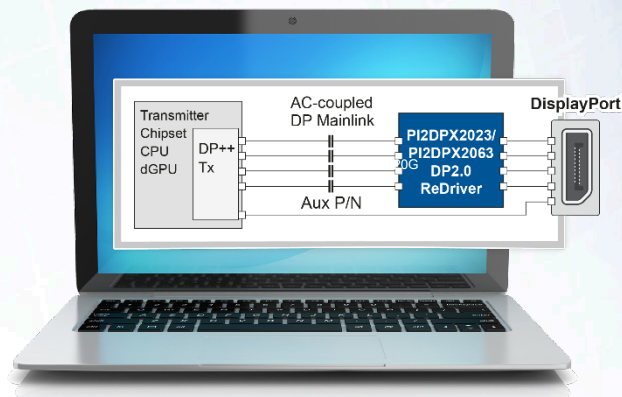
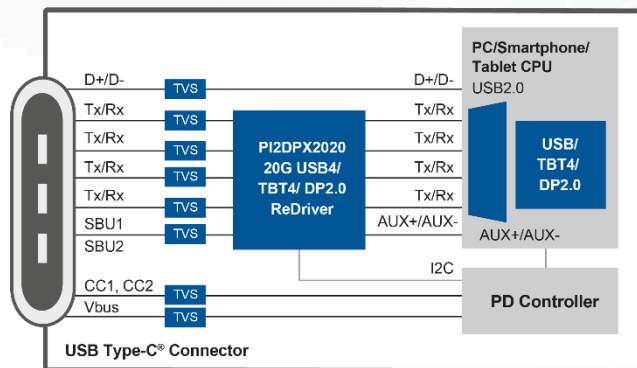
- Notebooks/Desktops/All-In-One (AIO) PCs
- Docking Stations
- Tablets
- Monitors
- Active cables



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PI2DPX2020
PI2DPX2023
PI2DPX2063

Typical Application



1.8V 10Gbps Linear ReDriver Product Portfolio

Part Number	Description	Operating Voltage (V)	Channels	Data Rate (Gbps)	Lanes/Ports	Maximum Output Swing (mV)	Program Interface	Operating Temperature (°C)	Package
PI2DPX2020	USB4/TBT4/DP 2.0 (UHBR20) USBC Alt Mode Linear ReDriver	1.8V	4	20	4	1,000	I2C	-40 to +85	W-LGA4528-32
PI2DPX2023	DP 2.0 (UHBR20) DisplayPort 2.0 Linear ReDriver w/pin strap control	1.8V	4	20	4	1,000	I2C	-40 to +85	W-LGA4528-32
PI2DPX2063	DP 2.0 (UHBR20) DisplayPort 2.0 Linear ReDriver w/I2C control	1.8V	4	20	4	1,000	I2C	-40 to +85	W-LGA4528-32

Ordering Information

Orderable Part Number	Package Code	Package	Moisture Sensitivity	Reel Size	Tape Width	Quantity
PI2DPX2020FLAEX	FLA	W-LGA4528-32 (2.85mm x 4.5mm x 0.7mm)	MSL 1	13"	12mm	3,500
PI2DPX2023FLAEX						
PI2DPX2063FLAEX						