



New Product Announcement

PI2DPX2023A PI2DPX2063A

1.8V 20Gbps DP 2.1 UHBR20 Linear ReDriver™ with AUX Listener for High Resolution Video Connectivity

The PI2DPX2023A and PI2DPX2063A are 20Gbps DP 2.1 UHBR20 linear ReDrivers in a 4-to-4 configuration operating from a 1.8V power supply utilizing I2C and pin strap control respectively.

The devices support UHBR20, UHBR13.5, UHBR10, HBR3, HBR2, HBR, and RBR under various DisplayPort™ (DP) speeds. With its on-chip AUX channel listener, the devices can monitor the system operation status to automatically enter D3 power-saving mode.

The PI2DPX2063A's and PI2DPX2023A's non-blocking linear ReDriver design ensures that the differential signals help optimize the overall channel link adjustment conducted by the system transmitter and receiver. The differential signals convey pre-shoot and de-emphasis equalization waveforms from the transmitter side to the receiver side.

The CTLE equalizers are implemented at the inputs of the ReDriver to compensate channel loss and reduce ISI jitters.

The programmable flat-gain adjustments support the eye diagram opening. The CTLE equalizer's gains and flat gains are programmable for flexible tuning via I2C register (PI2DPX2063A) or strap pin setting (PI2DPX2023A).

The device is available in the very small W-LGA4528-32 (FLA32) with a 2.85mm x 4.5mm footprint and industrial temperature range of -40°C to +85°C.

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ReDriver™ is a trademark of Diodes Incorporated.

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The DIODES Advantage

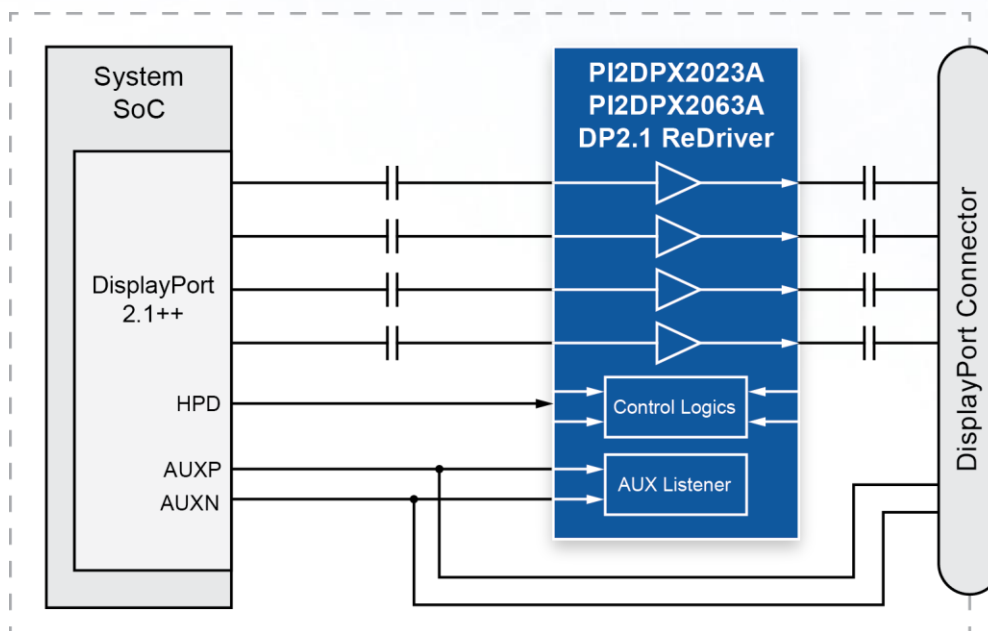
The low-jitter DP 2.1 linear ReDrivers, PI2DPX2063A and PI2DPX2023A, improve high-resolution video connectivity.

- **Transparent and Ultra-Low Latency**
Provides good signal integrity for enhanced system compatibility
- **Supports All VESA™ DisplayPort Transmission Modes**
Includes UHBR20 (20Gbps), UHBR13.5 (13.5Gbps), UHBR10 (10Gbps), HBR3 (8.1Gbps), HBR2 (5.4Gbps), HBR (2.7Gbps), and RBR (1.62Gbps)
- **Programmable Receiver-Side CTLE, Output-Side Flat Gain, and Swing Linearity Settings Through I2C (PI2DPX2063A) or Pin Strap (PI2DPX2023A)**
Extends PCB trace lengths while reducing signal latency
- **Built-In AUX Listener and Power-Down Mode Support with Hot-Plug Detect (HPD) Pin Input**
Supports DisplayPort D3 power-saving modes
- **Very Thin and Small W-LGA4528-32 Package**
Enables use in portable devices such as laptops

Applications

- Laptops, desktops, and all-in-one PCs
- Workstations and servers
- Docking stations
- Graphics add-in cards
- Display monitors
- Gaming consoles
- Active cables

Typical Application



DP 2.1 UHBR20 Linear ReDriver Product Portfolio

Part Number	Operating Voltage	Channels	Data Rate	Lanes/ Ports	Max. Output Swing	Programming Interface	Operating Temperature	Packages
	V		Gbps		mV		°C	
PI2DPX2023A	1.8	4	20	4	1,000	Pin Strap	-40 to +85	W-LGA4528-32 (FLA32)
PI2DPX2063A	1.8	4	20	4	1,000	I2C	-40 to +85	W-LGA4528-32 (FLA32)

Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Package Code	Package	Moisture Sensitivity	Packing	
					Quantity	Carrier
PI2DPX2023AFLAEX	Standard	FLA32	W-LGA4528-32 32-pin 2.85mm x 4.5mm	MSL-3	1,500	13" Tape & Reel
PI2DPX2063AFLAEX	Standard	FLA32	W-LGA4528-32 32-pin 2.85mm x 4.5mm	MSL-3	1,500	13" Tape & Reel