

PI2DPX1263

1.8V 10Gbps DisplayPort 2.0/1.4 Linear ReDriver with AUX Listener

Features

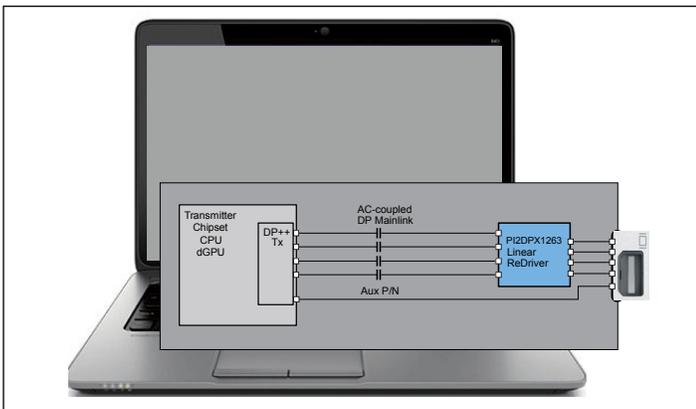
- 4-Channel Configuration with 10Gbps Linear ReDriver
- Supports the Channel Speed up to 10Gbps DP2.0 (UHBR10)
- Ultra-Low Latency (< 300ps) for Better Interoperability and Data Throughput
- Individual Controls on CTLE Gain, Flat Gain, and Output Linearity
- Integrated AUX Channel Listener for D3 Power Saving Mode
- I2C Slave Support with Speed up to 1MHz
- Very-Low DisplayPort Active Mode and Power Saving Mode Operation
- Interchangeable Input Channel Polarity
- Single Power Supply: 1.8V ±5%
- Industrial Temperature Support: -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-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](mailto:contact@diodes.com) or your local Diodes representative.
<https://www.diodes.com/quality/product-definitions/>

Description

The PI2DPX1263 is a non-blocking DisplayPort2.0/DP1.4 linear ReDriver™ with four channels operated by 1.8V power supply. The device supports UHBR10 (10Gbps), HBR3 (8.1Gbps), HBR2 (5.4Gbps), and RBR under various DisplayPort speeds. With the on-chip AUX channel listener, the device can automatically monitor the system operation status to enter power saving mode via the DPCD register traffic check and activate the negotiated lane count for operation.

The non-blocking linear ReDriver design ensures the differential signals conveying pre-shoot and de-emphasis equalization waveform messages from transmitter side to receiver side, which helps optimize the overall channel link adjustment conducted by the system transmitter and receiver with DFE. The CTLE equalizers are implemented at the inputs of the ReDriver to compensate the channel loss and reduce the ISI jitters. The programmable flat gain and linearity adjustments support the eye diagram opening. The CTLE EQ gains, flat gains, and linearity are individually programmable on each channel for flexible tuning via I2C register settings.

Application Example



System with DisplayPort Connector Application

Applications

- Laptop PCs
- Desktop PCs
- Gaming Consoles
- VR/AR Goggles
- Active Cables
- Embedded Display Panels

Ordering Information

Part Number	Package Code	Description
PI2DPX1263XUAEX	XUA	32-pin, 2.85x4.5mm (X2QFN)

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.
4. E = Pb-free and Green
5. X suffix = Tape/Reel