

Tunable Linear ReDrivers Support Superior Levels of Signal Integrity on High-Speed DisplayPort 2.0 and HDMI 2.1 Interfaces

The PI3DPX8112 and PI3HDX12212 are 1-to-2 active DeMux linear ReDrivers™ for four-lane DisplayPort™ links, with data rates up to 13.5Gbps for DP2.0 (UHBR13.5) and 12Gbps HDMI™2.1 applications respectively.

The PI3DPX8112 and PI3HDX12212 are pin strap adjustable and provide eight levels of equalizer settings for each of the two output paths, as well as four settings for adjusting output flat gain and output swing. These adjustments compensate for channel loss and remove ISI jitter for a longer channel reach.

The devices are used in Graphic Processing Unit (GPU) outputs or other display source demultiplexing applications, such as mobile workstations, gaming notebooks, all-in-one PCs, docking systems, display dongles, and other embedded applications.

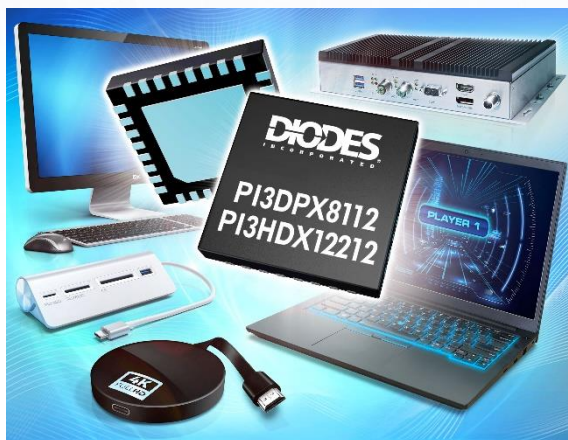
The PI3DPX8112 and PI3HDX12212 are packaged in the 40-pin TQFN 3mm x 6mm package and operate with an industrial temperature range of -40°C ~ +85°C

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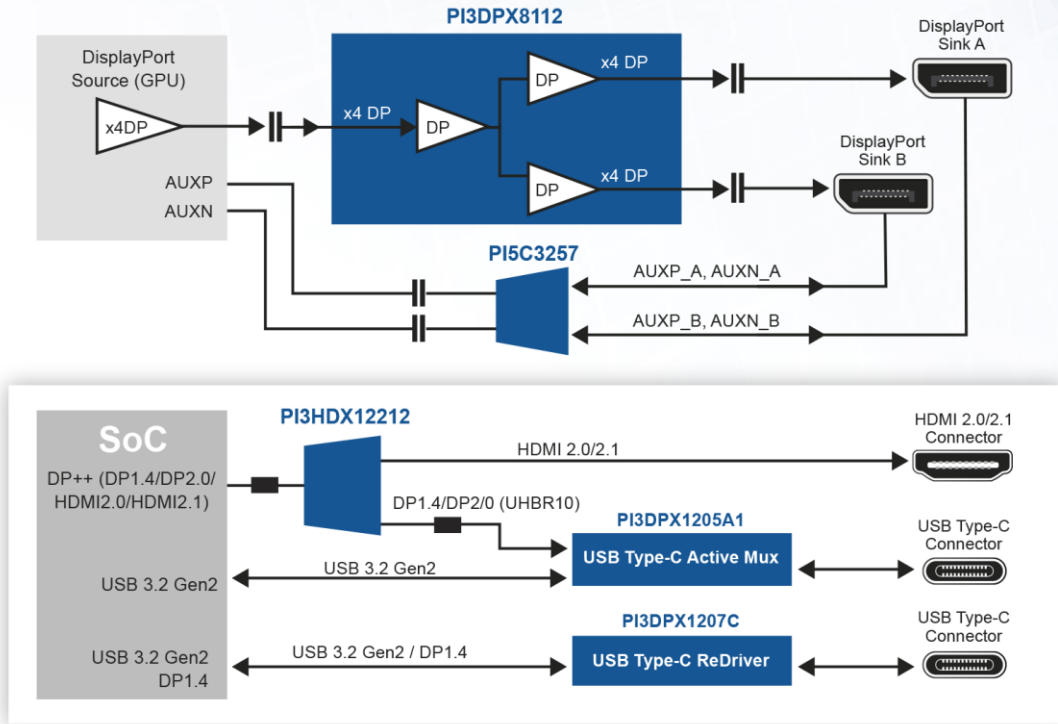
The Diodes Advantage

- **PI3DPX8112 supports all VESA® DisplayPort transmission modes**
RBR (1.62Gbps), HBR (2.7Gbps), HBR2 (5.4Gbps), HBR3 (8.1Gbps), UHBR10 (10Gbps), and UHBR13.5 (13.5Gbps).
- **PI3HDX12212 supports HDMI transmission modes**
HDMI1.2(2.5Gbps), HDMI1.4(3.4Gbps), HDMI2.0 (6Gbps), and HDMI2.1 (12Gbps)
- **High-speed signal integrity, pin strap programmable settings**
Enables fine-tuning of equalizer, output flat gain, and output swing
- **Transparent and ultra-low latency linear ReDriver channels**
Perform good signal integrity and compatibility for system design
- **Input signal detection**
Enables automatic power-saving mode
- **Industrial operating temperature range**
Enables industrial and embedded applications
- **Small TQFN-40 package**
3 x 6 x 0.8mm, 0.4mm pitch

Applications

- Gaming notebooks
- Mobile workstations
- All-in-one PCs
- Embedded systems
- Docking systems
- Display dongles
- Industrial computing

Typical Application Circuit



Product Portfolio

Part Number	Description	Operating Voltage (V)	Channels	Data Rate (Gbps)	Lanes/ Ports	Maximum Output Swing (mV)	Programming Interface(s)	Operating Temperature °C	Packages
PI3DPX8112	DP2.0 (UHBR13.5) 1:2 4 lane Active Demux	3.3V	4	13.5	4	1200	Pin Strap	-40 ~ +85	TQFN-40
PI3HDX12212	HDMI2.1 1:2 4 lane Active Demux	3.3V	4	12	4	1200	Pin Strap	-40 ~ +85	TQFN-40

Ordering Information

Ordering Number	Package Code	Package	Moisture Sensitivity	Reel Size	Tape Width	Quantity
PI3DPX8112ZLDEX PI3HDX12212ZLDEX	ZLD	TQFN-40 (3x6x0.8mm)	MSL 1	13"	12mm	3500