



New Product Announcement

PI3USB31532Q

10Gbps, USB 3.2/DP 2.1, UHBR10, 6:4/4:6, Automotive-Compliant Crossbar Switch for In-Vehicle Connectivity

The PI3USB31532Q is a 6:4 differential channel, bidirectional, 10Gbps crossbar switch solution with AEC-Q100 Grade 2 qualification. This device is used for switching USB 3.2 and/or DP™ 2.1 signals through USB Type-C® connectors in automotive smart cockpit applications.

The device has three multiplexing options to the USB Type-C connector:

- one lane of USB 3.2
- one lane of USB 3.2 and two channels of DP 2.1 UHBR10
- four channels of DP 2.1 UHBR10 to the USB Type-C connector

In addition, AUX± channels are also multiplexed to the USB Type-C connector.

The PI3USB31532Q with its low -1.7dB@10Gbps insertion loss offers excellent signal integrity for high-speed signals and low-power dissipation.

It is available in the 40-Pin W-QFN3060-40 with a 3mm x 6mm footprint.



The DIODES Advantage

This 6:4/4:6 automotive-compliant crossbar switch simplifies routing/multiplexing USB-C and/or DP signals in infotainment and rear seat equipment applications.

- **Supports the Latest USB 3.2 Spec With 3 Operating Modes**
 - 1-port 10Gbps USB 3.2
 - 1-port USB 3.2 + 2-channel DisplayPort 2.1
 - 4-channel DisplayPort 2.1

Enables flexible USB-C USB 3.2/DP-Alt Mode Operation
- **Low -1.7dB@10Gbps Insertion Loss**
Ensures excellent signal integrity even at highest data rate
- **High 8.3GHz Bandwidth**
Ensures full data rate support for both USB 3.2 and DP 2.1
- **I2C or Pin-Strapping Control**
Provides flexible control and setup for ease of use
- **Qualified to AEC-Q100 Grade 2**
Supports a -40°C to +105°C ambient operating temperature

Automotive-compliant - AEC qualified, manufactured in IATF 16949 certified sites supporting PPAP documents.

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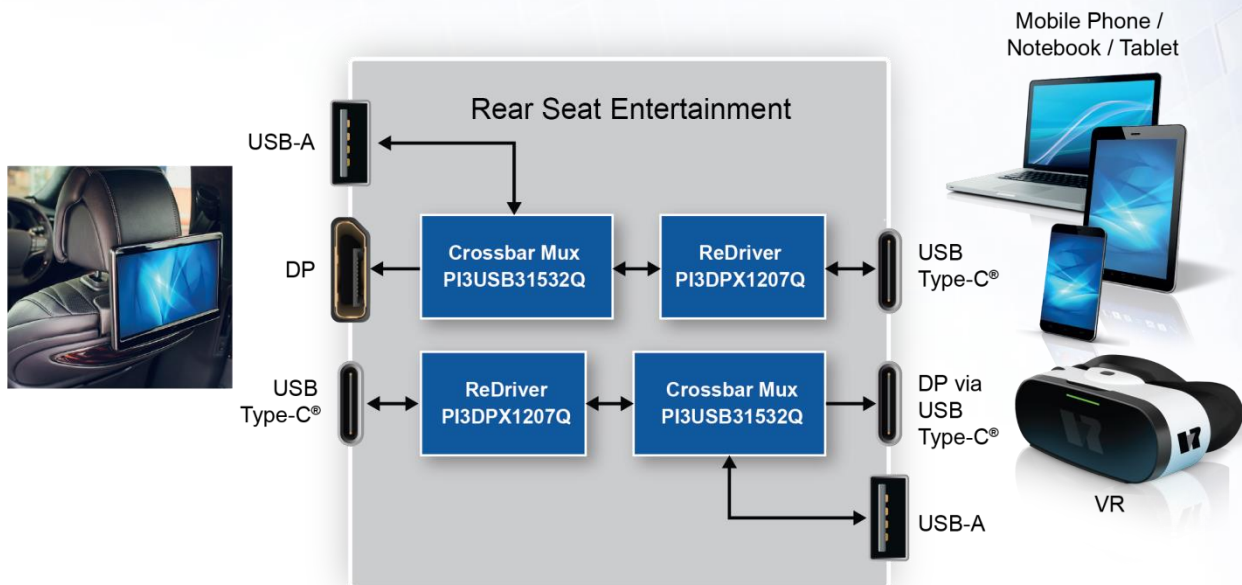
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Applications

USB and/or DP routing in:

- Smart cockpits
- Rear seat entertainment

Typical Application



Automotive-Compliant Crossbar Switch Portfolio

Part Number	USB Spec	DP Spec	Max Data Rate	Lanes	Programming Interface	USB/DP/AUX Flip	AUX	Ambient Temperature Range	Package
			Gbps					°C	
PI3USB31532Q	USB 3.2 Gen 2	DP 2.1 UHBR10	10	6:4/4:6	Pin or I2C	Yes	Yes	-40 to +105	W-QFN3060-40 (ZLC)

Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Package	Moisture Sensitivity	Packing	
				Quantity	Carrier
PI3USB31532Q2ZLCEX	Automotive	W-QFN3060-40 (ZLC)	MSL-1	3,500	13" Tape & Reel