



# New Product Announcement

## PI2DBS32412

### 1.8V, 32 Gbps, Four-Differential Channel 2:1 Mux/Demux Switch

The PI2DBS32412 is a high-speed, passive, four-differential channel, 2:1 mux/demux.

Its 32Gbps data rate makes it suitable for high-speed differential signals such as PCIe® 5.0, USB 3.2 (including 2x2), USB4 (20Gbps), 10GE, Thunderbolt™ 3, Thunderbolt™ 4, SAS3.0, and CXL1.0.

The part's dynamic electrical characteristics minimize insertion loss, crosstalk, and return loss. This allows high-speed switching with minimum attenuation to the signal, making it suitable for multiple signal types.

The PI2DBS32412 is packaged in the small 2.0mm x 4.8mm 32-UQFN (ZTF) for space-constrained applications.

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#### The DIODES Advantage

**High-performance 2:1 exchange switch supporting four-differential channel mux/demux switch.**

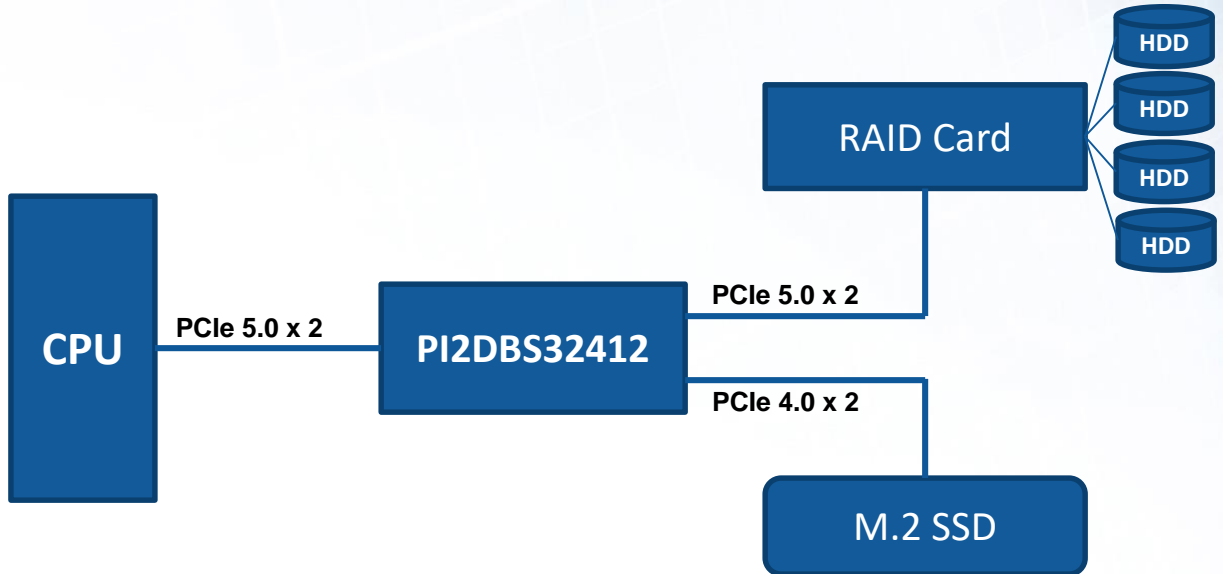
- **Four-Differential Channel, Bi-Directional 2:1 Mux and Demux**  
Offers flexibility in number of channels and routing
- **High 32Gbps Data Rate for High-Speed Differential Datapath Applications**  
Supports PCIe 5.0 data throughput rates
- **Fast Response Times**  
Low bit-to-bit skew of 3ps, and low channel-to-channel skew of 10ps
- **Low 400µA Current Consumption**  
Meets the low power needs of systems
- **Small 32-Pin UQFN with 2.0mm x 4.8mm Footprint**  
Allows for usage in space-constrained portable applications

#### Applications

High-speed switching and multiplexing in applications using the following protocols:

- PCIe 5.0
- USB 3.2 10Gbps, 20Gbps
- USB 4.0 20Gbps
- CXL1.0
- Thunderbolt 3, 4
- SAS 3.0
- 10GE

### Typical Application



### Passive Switch Portfolio

Part Number	Differential Channels	Lanes	Max Data Rate	Type	Voltage	Package
<a href="#">PI2DBS32412</a>	4	2	32Gbps	Passive (2:1) Switch	1.8V	32-UQFN (ZTF)
<a href="#">PI2DBS32212</a>	2	2	32Gbps	Passive (2:1) Switch	1.8V	24-X1-QFN (XEB)

### Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Package Description	Packing	
			Quantity	Carrier
<a href="#">PI2DBS32412ZTFEX</a>	<a href="#">Standard</a>	32-UQFN (2.0mm x 4.8mm)	3,500	13" Tape & Reel