



New Product Announcement

PI3DBS16222Q

20Gbps, 2x2, Automotive-Compliant, Exchange Switch for Fast Multiplexing/Switching in ADAS and Telematics

The DIODES PI3DBS16222Q is an automotive-compliant, differential exchange switch with a pass-through pinout.

The device enables 2x2 differential multiplexing at 20Gbps, supporting automotive applications utilizing PCI Express® 4.0, USB 3.2 Gen 2, and 10GBASE-KR.

Based on a unique design technique, we are able to optimize the device's dynamic electrical characteristics, such as low insertion loss, crosstalk, return loss, and low 10ps bit-to-bit skew.

It has been qualified to AEC-Q100 Grade 2, supporting ambient temperatures from -40°C to +105°C.

The part is packaged in the tiny 2.5mm x 4.5mm 30-TQFN (ZL) for space-constrained applications.



The DIODES Advantage

High-performance 2x2 exchange switch supports four-differential channel multiplexing applications.

- **Four-Differential Channel, Bidirectional 2x2 Mux**
Offers channel number and routing flexibility
- **Fast 13GHz, -3dB Bandwidth**
Enables data rates of up to 20Gbps supporting PCIe 4.0, USB 3.2 Gen 2, and 10GBASE-KR
- **Qualified to AEC-Q100 Grade 2**
Supports automotive applications with ambient temperatures from -40°C to +105°C
- **Low Insertion Loss: - 2dB @ 10GHz**
Minimal attenuation of the signal
- **30-TQFN (ZL) with 2.5mm x 4.5mm Footprint**
Allows for usage in space-constrained portable applications

Applications

Automotive applications up to 20Gbps utilizing:

- PCIe 4.0
- USB 3.2 Gen 2
- 10GE
- SATA 3.0
- SAS 3.0
- Automotive Infotainment

Automotive-compliant – AEC-Q100 Grade 2 qualified in IATF 16949 certified manufacturing sites and supports PPAP documentation.

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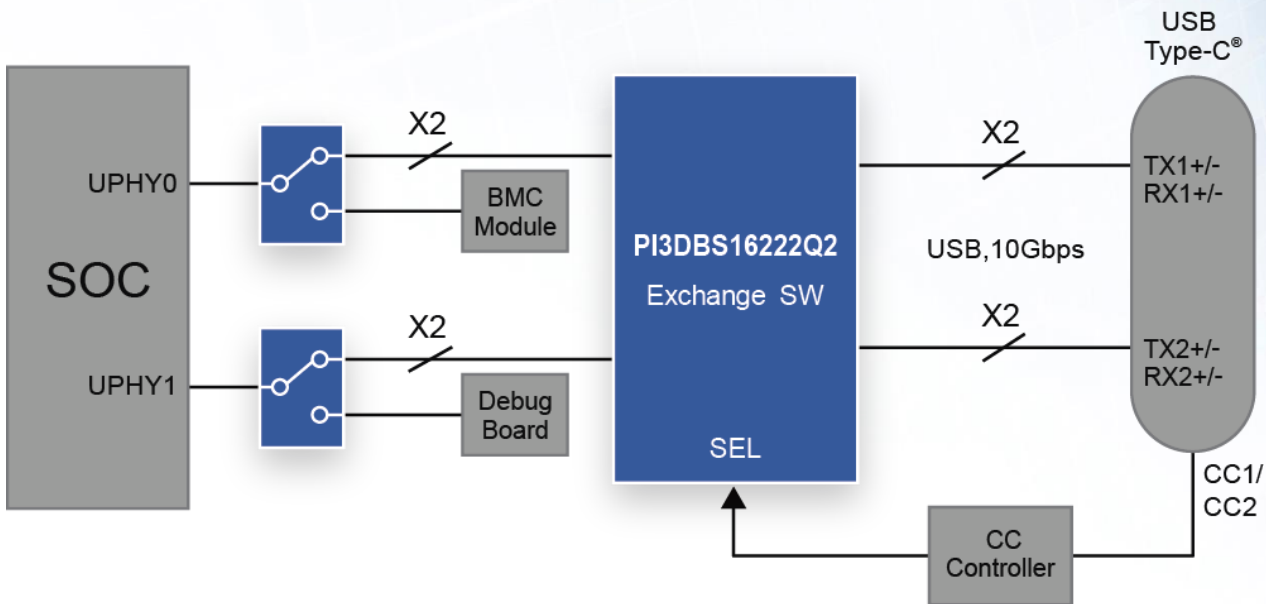
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Typical Application



Automotive-Compliant Exchange-Switch Portfolio

Part Number	Differential Channels	Lanes	Max Data Rate	Type	Voltage	AEC-Q100 Grade	Package
PI3DBS16222Q	4	2	20Gbps	Exchange (2x2) Switch	3.3V	2	30-TQFN (ZL)

Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Package	Moisture Sensitivity	Packing	
				Quantity	Carrier
PI3DBS16222Q2ZLEX	Automotive	30-TQFN (ZL) (4.5mm x 2.5mm)	MSL-1	3,500	13" Tape and Reel