



New Product Announcement

PI3USB4000DQ
PI3USB4002AQ

Our First Automotive-Compliant USB 2.0 Mux/DeMux Switches with High-Voltage Signal and Power Rail Protection

The PI3USB4000DQ/4002AQ are Diodes Incorporated's first automotive-compliant* USB 2.0 passive signal Mux/Demux switches.

The PI3USB4000DQ is a 2:1/1:2 Mux/Demux, while the PI3USB4002AQ is a 1:1 switch.

These USB 2.0 switches/muxes incorporate high-voltage signal and power rail protection. Using a unique design technology, the PI3USB400xxQ have 24-V_{DC} withstand on the high-speed data pins, enabling them to tolerate shorts to Vbus on both USB and USB Type-C® connectors.

This unique technology also provides an extremely low 35µA supply current. Both are available in the compact U-QFN1520-10 package.

USB Type-C® and USB-C® are trademarks of USB Implementers Forum



The Diodes Advantage

Automotive-compliant USB 2.0 Mux/switch withstands shorts between D± and VBUS for robust USB-C solutions

- **24-V_{DC} withstand on data pins**
Protects the system from damage due to connector/cable damage
- **Compact 1.5mm x 2mm U-QFN1520-10 package**
Small footprint solution
- **Ultra-low 35µA supply current (1µA Disabled Current)**
Minimal power consumption
- **Meets IEC61000-4-2, 10kV**
Robust high-performance ESD Protection
- **AEC-Q100 qualified to Grade 1**
Supports ambient temperatures up to 125° C

Application(s)

- Infotainment
- ADAS
- USB Type-C port protection

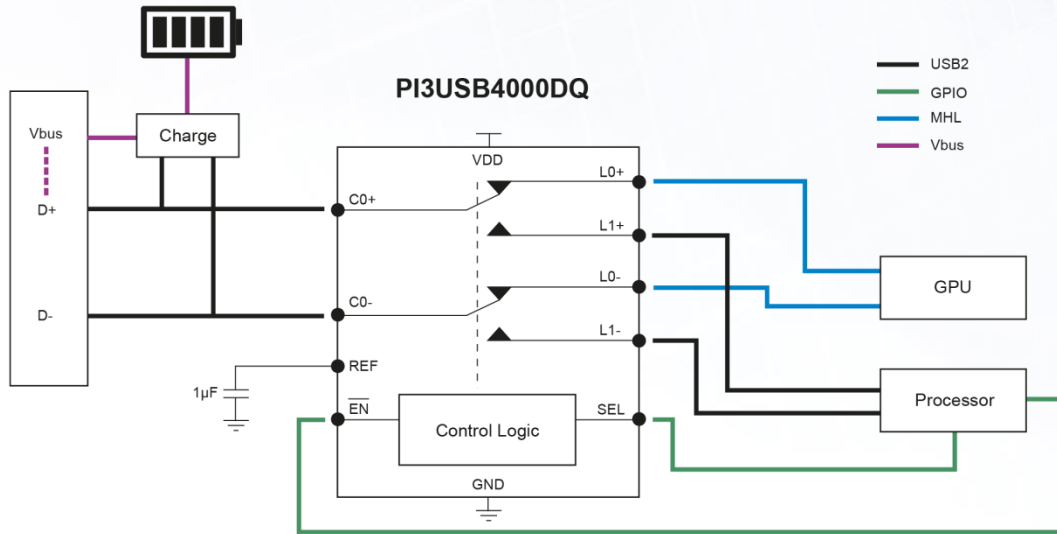
*Automotive compliant – AEC qualified in IATF 16949 certified manufacturing sites and supports PPAP documentation



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PI3USB4002AQ

Application Diagram



Automotive Compliant USB 2.0 Product Portfolio

Part Number	Configuration	Withstand Voltage on Data Pins	Withstand Voltage on VDD	Package	Temperature Range
PI3USB4000DQ	1:2 / 2:1	24V	9V	U-QFN1520-10	-40 to 125°C
PI3USB4002AQ	1:1				

Further Information

PI3USB4000DQ: <https://www.diodes.com/part/PI3USB4000DQ>

PI3USB4002AQ: <https://www.diodes.com/part/PI3USB4002AQ>

Ordering Information

MPN	Packaging	Quantity per reel
PI3USB4000DQZUAEX	U-QFN1520-10	3,500
PI3USB4002AQZUAEX		