New Product Announcement

DPO2039DABQ

# Automotive Compliant USB Type-C Port Protector Provides Overvoltage and Short-Circuit Protection

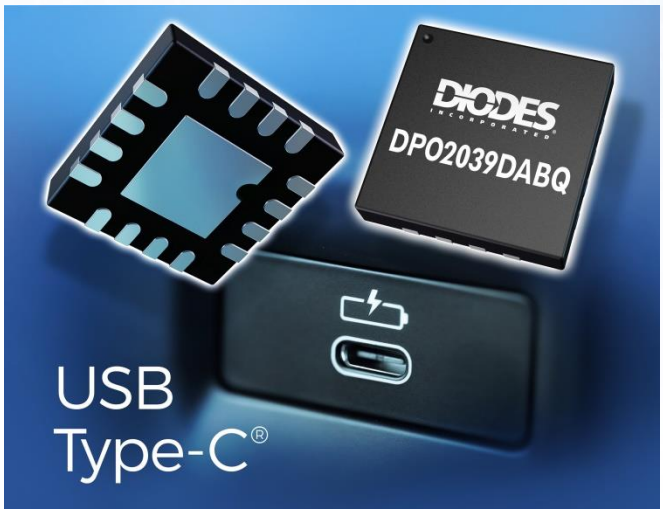
The DPO2039DABQ is an automotive-compliant, AECQ qualified, 4-channel protection solution for USB Type-C® ports in automotive head units, rear seat entertainment units, and in car charging.

The DPO2039DABQ is used in line with the CC1/CC2 and D+ and D- signals, or the SBU pins of a USB Type-C port to protect the device from ESD—faults caused by the presence of an excessive voltage or short-circuit to VBUS on any of the four data lines, or an overtemperature event.

The DPO2039DABQ features low insertion loss, with a typical on-resistance of 300mΩ and equivalent on capacitance of 50pF or less, meaning it has no negative impact on the bandwidth of the data lines.

The DPO2039DABQ also provides a high level of ESD protection, removing the need for external transient voltage suppressors.






## The Diodes Advantage

- **4 Channels of Overvoltage protection**
  Isolates the system (CC and D+/D- or SBU) from the high voltage on the connector due to cable damage
- **Overtemperature Protection**
  Thermal shutdown when 150°C is exceeded
- **IEC61000-4-2 ESD Protection of CCxC & DIFFxC Pin**
  Protects CC and D+/D- or SBU pins from ESD damage
- **Fault Status**
  Provides external status signal to USB host/controller
- **Automotive Compliant**
  AECQ-100 qualified, manufactured in IATF16949 certified site supporting PPAP documents

## Application

- USB Type-C

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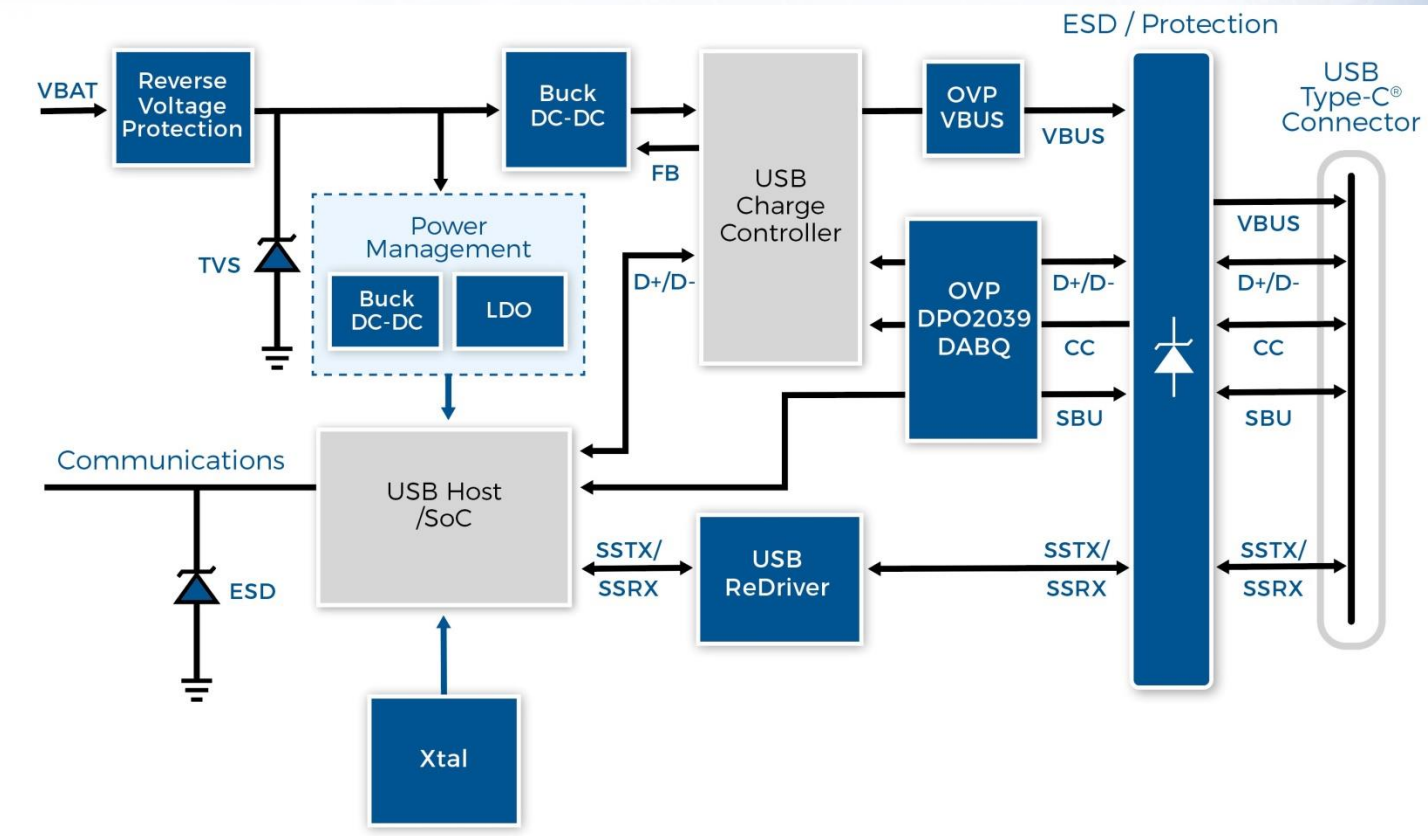
## Typical Application Schematic




## Product Portfolio

| Parts | Package | VSYS (V) | OVP CC (V) | OVP DIFF (V) | $R_{DS(on)}$ CC (mOhm) | $R_{DS(on)}$ DIFF (Ohm) | BW DIFF (MHz) | HBM (V) |
|---|---|---|---|---|---|---|---|---|
| DPO2039DABQ | U-QDFN3030-16 | 2.7~5.5 | 6 | 4.5 | 300 | 5 | 1000 | 2000 |

Further information:
https://www.diodes.com/part/DPO2039DABQ