USB Type-C Port Protector

20230725 Ver0.1

1. General Description

The FA2217 is a single-chip USB Type-C port protection device that provides 28V Short-to-V_{BUS} protection. Since the release of the USB Type-C connector, many products and accessories for USB Type-C have been released that do not meet the USB Type-C specification. One example of this is USB Type-C Power Delivery adaptors that only place 28V on the V_{BUS} line. Another concern for USB Type-C is that mechanical twisting and sliding of the connector could short pins due to the close proximity they have in this small connector. This can cause 28V V_{BUS} to be shorted to the CC and SBU pins. Also due to the proximity of the pins in the Type-C connector, there is a heightened concern that debris and moisture will cause the 28V V_{BUS} pin to be shorted to the CC and SBU pins.

These non-ideal equipment and mechanical events make it necessary for the CC and SBU pins to be 28V tolerant, even though the pins only operate at 5V or lower. The FA2217 enables the CC and SBU pins to be 28V tolerant without interfering with normal operation by providing over-voltage protection on the CC and SBU pins. The device places high voltage FETs in series on the CC and SBU lines. When a voltage above the OVP threshold is detected on these lines, the high voltage switches are opened up, isolating the rest of the system from the high voltage condition present on the connector.

Features

- 4-Channels of Short-to-V_{BUS} Overvoltage Protection (C_CC1, C_CC2, C_SBU1, C_SBU2)
- 8-Channels of IEC 61000-4-2 ESD Protection (C_CC1, C_CC2, C_SBU1, C_SBU2, D1, D2, D3, D4)
- 600mA Capable for Passing V_{CONN} Power
- CC Dead Battery Resistors Integrated for Handling Dead Battery Use Case
- Halogen Free, RoHS and TSCA Regulations Compliant
- Available in 20-Pin QFN 3mmx3mm Package

Ordering Information

FA2217 □ □

- □ Packing Code
- □ Package Type

Package Type
NT: QFN3x3mm^2-20L
Packing Code
R: Tape & Reel

Marking Information

FA2216: Product Code
YY: Year 2023→23、2024→24
WW: Week 01~53
ZZ: Series Code

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