

USB Type-C Protector for CC Pins

Features

- Overvoltage Protection:
 - ▶ 24VDC Tolerance on CC1/2
 - Robust 25V overshoot clamping
 - ▶ CC1/2 OVP = 5.8V
 - ▶ Ultra-fast 15ns Response Time
- Surge Protection
 - ▶ $\pm 80\text{V}$ Surge Tolerance on CC1/2
- IEC61000-4-2 ESD Protection
 - ▶ $\pm 15\text{kV}$ air gap on CC1/2
 - ▶ $\pm 8\text{kV}$ contact on CC1/2
 - ▶ $\pm 2\text{kV}$ HBM on all pins
- Moisture Detection Compatible
 - ▶ Over $10\text{M}\Omega$ to ground on CC1/2
- CC Switches:
 - ▶ 1.25A, $240\text{m}\Omega$, 370pF , 13.2MHz
 - ▶ Automatic $5.1\text{k}\Omega$ dead battery pull-down
- 2.5V to 5.5V Operating Voltage Range
- -40°C to 85°C Operating Temperature Range
- Pb-free 12 bump WLCSP (0.4mm pitch)

Brief Description

The KTU1108 provides ESD, surge, and over-voltage protection (OVP) for USB Type-C ports' CC1 and CC2 (CC and V_{CONN}) lines. ESD protection meets IEC61000-4-2 standards, eliminating the need for external TVS diodes. Surge protection meets IEC61000-4-5 standards, increasing immunity from power surges such as lightning strikes on the power lines while the USB cable is connected. Overvoltage protection (OVP) eliminates system damage due to physical or moisture-related shorts between the signal pins and VBUS at elevated PD voltage levels.

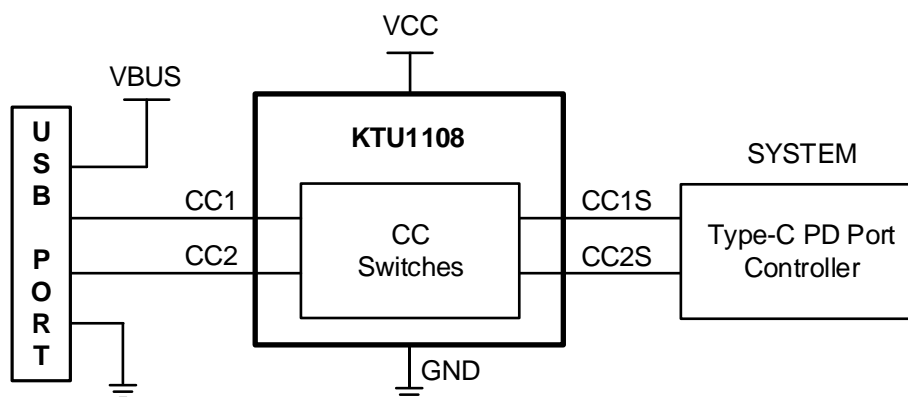
The CC1/2 switches are low on-resistance to minimize power dissipation for passing V_{CONN} power up to 1.25A. During dead battery conditions, internal $5.1\text{k}\Omega$ resistors automatically pull down on CC1/2 to ensure that the upstream source provides 5V to VBUS.

The KTU1108 is packaged in RoHS and Green compliant $1.29\text{mm} \times 1.69\text{mm}$ wafer-level chip-scale package (WLCSP).

Applications

- Smartphones and Tablets
- Mobile Internet Devices, Accessories, Wearables

Typical Application



Ordering Information

Part Number	Marking ¹	Operating Temperature	Package
KTU1108EFAA-TR	MTXXYYZZZZ	-40°C to +85°C	WLCSP34-12

1. "MT" is the device ID, "XX" is the date code, "YY" is the assembly code and "ZZZZ" is the serial number.

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