

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
 - ▶ $\pm 80V$ Surge Tolerance on CC1/2
- IEC61000-4-2 ESD Protection
 - ▶ $\pm 15kV$ air gap on CC1/2
 - ▶ $\pm 8kV$ contact on CC1/2
 - ▶ $\pm 2kV$ HBM on all pins
- Moisture Detection Compatible
 - ▶ Over $10M\Omega$ to ground on CC1/2
- CC Switches:
 - ▶ 1.25A, $240m\Omega$, $370pF$, $13.2MHz$
 - ▶ Automatic $5.1k\Omega$ dead battery pull-down
- 2.5V to 5.5V Operating Voltage Range
- $-40^{\circ}C$ to $85^{\circ}C$ Operating Temperature Range
- Pb-free 12 bump WLCSP (0.4mm pitch)
- RoHS and Green Compliant

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.

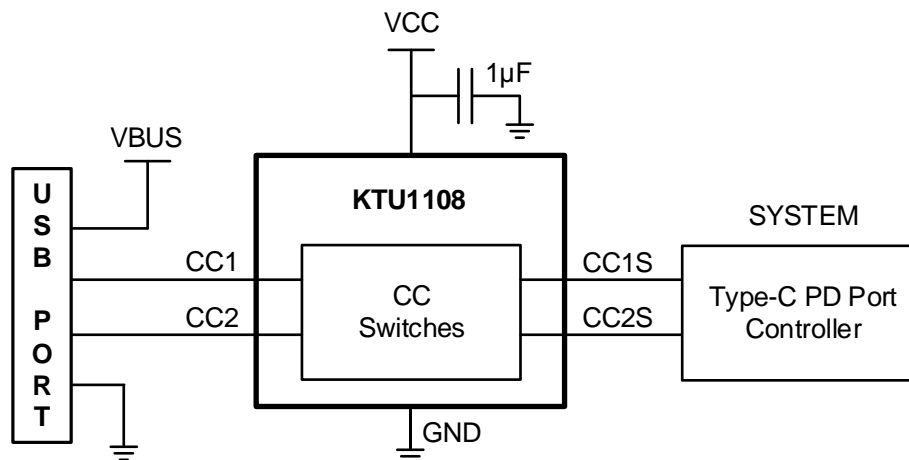
The CC1/2 switches are low on-resistance to minimize power dissipation for passing V_{CONN} power up to 1.25A. During dead battery conditions, internal $5.1k\Omega$ resistors automatically pull down on CC1/2 to ensure that the upstream source provides 5V to VBUS.

The KTU1108 is packaged in RoHS and Green compliant $1.29mm \times 1.69mm$ 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. WW = Device ID Code, XX = Date Code, YY = Assembly Code, ZZZZ = Serial Number.

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