

## 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,  $240\text{m}\Omega$ ,  $370\text{pF}$ ,  $13.2\text{MHz}$
  - ▶ Automatic  $5.1\text{k}\Omega$  dead battery pull-down
- 2.5V to 5.5V Operating Voltage Range
- $-40^\circ\text{C}$  to  $85^\circ\text{C}$  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  $V_{\text{CONN}}$ ) 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.

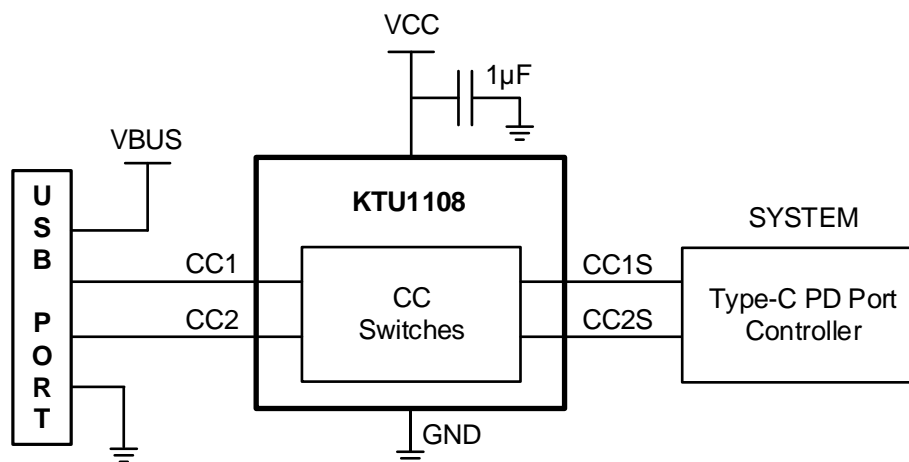
The CC1/2 switches are low on-resistance to minimize power dissipation for passing  $V_{\text{CONN}}$  power up to 1.25A. During dead battery conditions, internal  $5.1\text{k}\Omega$  resistors automatically pull down on CC1/2 to ensure that the up-stream source provides 5V to VBUS.

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 <sup>1</sup>	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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