

USB Type-C Port Protector for CC and SBU Pins

Features

- Thunderbolt™ compatible
- Overvoltage Protection
 - ▶ 24VDC Tolerance on CC1/2, SBU1/2
 - ▶ CC1/2 OVP = 5.8V
 - ▶ SBU1/2 OVP = 4.8V
- Fast 70ns Response Time
- IEC61000-4-5 Surge Protection
 - ▶ $\pm 40V$ Surge Tolerance on CC1/2
 - ▶ $\pm 30V$ Surge Tolerance on SBU1/2
- IEC61000-4-2 ESD Protection
 - ▶ $\pm 15kV$ air gap on CC1/2, SBU1/2
 - ▶ $\pm 8kV$ contact on CC1/2, SBU1/2
 - ▶ $\pm 2kV$ HBM on all pins (JEDEC JS-001-2017)
- CC Switches:
 - ▶ 1.25A, 270mΩ, 40pF, 140MHz
 - ▶ Automatic 5.1kΩ dead battery pull-down
- SBU Switches:
 - ▶ 3Ω, 11pF, 800MHz
- 2.5V to 5.5V Operating Supply Voltage Range
- -40°C to 85°C Operating Temperature Range
- 16-bump WLCSP 1.7mmx1.7mm (0.4mm pitch)
- 20 pin TQFN 3mmx3mm (0.4mm pitch)
- RoHS and Green Compliant

Brief Description

The KTU1121A provides four conducting paths with overvoltage protection (OVP) for Type-C's CC, SBU signals. Once an overvoltage event is detected, it will shut down all paths to protect circuits in system side, like PD controller from damage.

All the SBU and CC switches have very low on-capacitance for broad bandwidth to allow high-speed signal passing through without loss. The CC1/2 switches have low on-resistance for passing VCONN power up to 1.25A.

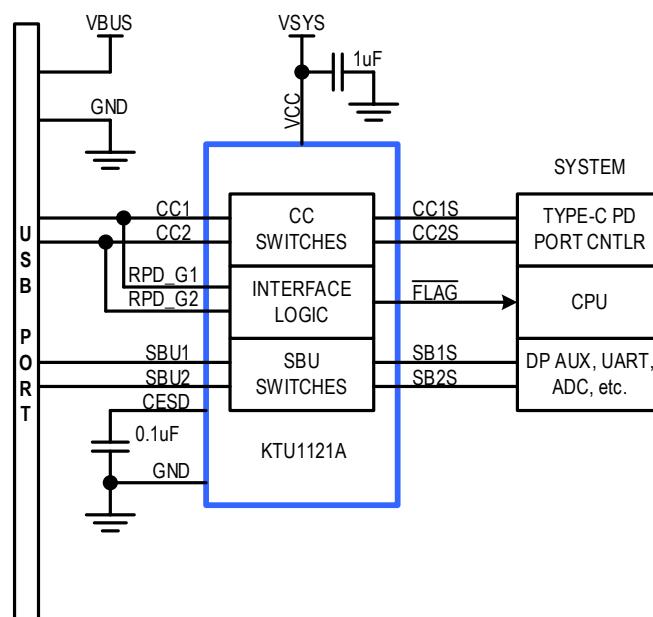
During dead battery conditions, internal 5.1kΩ resistors automatically pull-down on CC1/2 to ensure that the upstream source provides 5V on VBUS.

The KTU1121A is packaged in RoHS and Green compliant 16-bump WLCSP 1.7mm x 1.7mm package or 20 pin 3mm x 3mm TQFN package.

Applications

- Notebook PCs, Netbooks, Tablets, Monitors, TVs
- Gaming Devices, Set-Top Boxes, Networking

Typical Application



Ordering Information

Part Number	Marking	Operating Temperature	Package
KTU1121AEGAB-TA	RPXXYYZZZ ¹	-40°C to +85°C	WLCSP44-16
KTU1121AEUAJ-TD	RPYWZ ²	-40°C to +85°C	TQFN33-20

1. XX = Date Code, YY = Assembly Code, ZZZZ = Serial Number

2. YW = Date Code, Z = Serial Number

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