

USB Type-C Data Line Protection IC Responds To Overvoltages In 15 ns

[Kinetic Technologies'](#) KTU1101 USB type-C port protector offers an overvoltage protection (OVP) response time of 15 ns—beating the industry by a large margin, according to the company. The IC provides ESD, surge, and OVP for USB Type-C CC/VCONN and SBU signal lines. Physical or moisture-related shorts between the signal pins and VBUS at elevated PD voltage levels can cause catastrophic damage to internal electronics; the KTU1101 avoids the risk by keeping internal data line voltages below 6 V. Integrated ESD protection eliminates the need for external TVS diodes (see the figure.)

“Our goal is to raise the bar across OVP technology, and the KTU1101 does just that,” says Kinetic Technologies vice president David Nam. “This level of protection for USB Type-C ports is an industry first. Competitive solutions are more than 350% slower to respond, which results in risk of system failure during short-to-VBUS events.” He continues, “this is a superior OVP solution that meets the demands of major OEMs, including the ability to truly protect downstream ICs with a 6-V absolute maximum rating—no one else is doing this.”

The KTU1101’s ultra-fast response time and small solution size make it well suited for USB type-C port protection across many applications, including mobile and computing devices like smartphones, tablets and computers, as well as industrial hardware and enterprise solutions. The IC is packaged in RoHS and green compliant 1.7-mm x 2.1-mm wafer-level chip-scale packaging. Samples are available now. Contact [Kinetic Technologies](#) for more information.

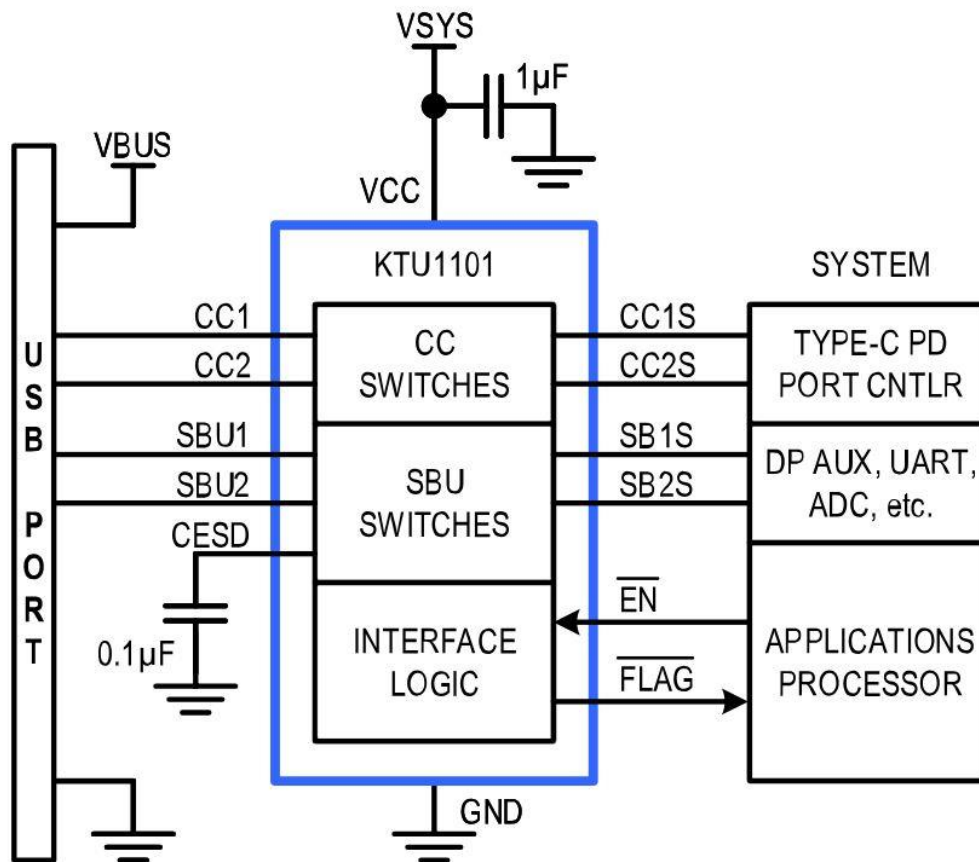


Figure. The KTU1101 USB type-C port protector provides ESD, surge, and overvoltage protection (OVP) for USB type-C CC/VCONN and SBU signal lines. According to the company, its overvoltage protection (OVP) response time of 15 ns is significantly better than competing solutions.