

SWITCHING SOLUTIONS

PI5USB30216C

Plug-in Detector for Type-C Connector (with Active Low Enable)

Pericom Semiconductor's PI5USB30216C provides a cost-effective solution for USB 3.0 Type-C connector applications. PI5USB30216C detects the plug-in orientation of the cable at a Type-C connector. It supports host mode, device mode and dual role mode ports with automatic configuration based on the voltage levels detected on CC pins. It is a fully-integrated solution with ultra-low power dissipation. PI5USB30216C enters power-saving mode when ENB pin is pulled up to V_{DD} through an internal resistor.

PI5USB30216C supports both pin and I²C control base on ADDR pin setting. It allows the system choose between pin control and I²C control mode. In pin control mode, the PORT input pin determines the port setting in which host, device or dual-role port can be selected. In host mode, the system can monitor ID pin to know the connector status while default current mode is set. Systems running in device mode can monitor system VBUS for connector status as well as OUT1 and OUT2 pins for host's charging profile capability. Enabling I²C control mode allows higher flexibility for port control and communications through registers read/write in PI5USB30216C. There is also flexibility to support Default, 1.5A and 3A current modes. An interrupt signal for indicating changes with the I²C registers is sent to the master to notify the system any change in the Type-C connector while in parallel the system can still monitor ID pin.

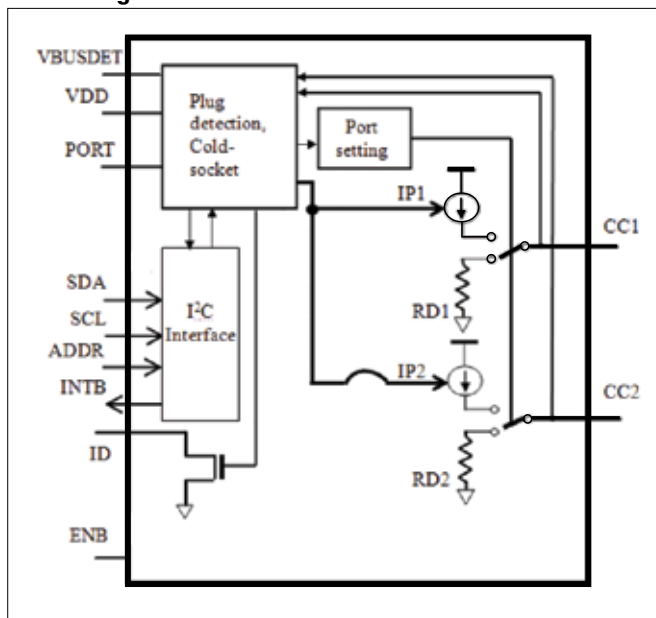
Features

- ➔ Compatible to USB Type-C™ Specification 1.1
- ➔ Backward compatible to USB Type-C Specification 1.0
- ➔ Supports Host mode/Device mode/Dual-role mode
- ➔ Supports Dual-role modes with/without Try.SNK/ Try.SRC supported
- ➔ Auto-configure ports orientation through CC detection
- ➔ Supports both pin control and I²C interface for control and communication
- ➔ Integrated high-precision resistors and current sources for CC pins
- ➔ Provides support for Default current, 1.5A and 3A modes with I²C control
- ➔ Power saving mode
- ➔ Output indicator for plug-in detection
- ➔ Wide power supply range : 2.7V – 5.5V
- ➔ Industrial Temperature Range: -40°C to 85°C
- ➔ Packaging (Pb-free & Green):
 - 12- contact, STQFN (1.6mm x1.6mm)

Applications:

- ➔ Mobile Phone
- ➔ Power Adapter
- ➔ Tablet
- ➔ LTE-WiFi Router

Block Diagram



Smartphone Application

