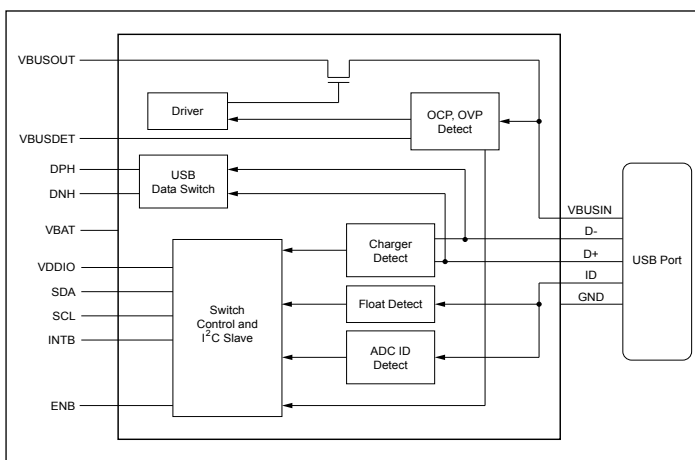A product Line of
Diodes Incorporated

PERICOM®

PI3USB9281C

USB 2.0 Port Protection with Charger Detection

Features

➜ USB-device charger detector
➜ Can tolerate USB3.0-PD with VBUS = 20V
➜ USB Charging-type detection
➜ Battery Charging 1.2 (BC1.2) – DCP
➜ Battery Charging 1.2 (BC1.2) – CDP
➜ Battery Charging 1.2 (BC1.2) – SDP
➜ Apple 1A, 2A & 2.4A dedicated chargers
➜ Samsung-Fast chargers
➜ YD/T-1951 dedicated chargers
➜ CEA-936 Carkit#1 and #2 chargers
➜ Integrated Power FET
➜ VBUS Tolerance up to 28V
➜ 1.7A Over-Current Protection (OCP)
➜ VBUS Over-Voltage Protection (OVP)
➜ Non-charging Accessory Detection
➜ USB On-The-Go (OTG) detection
➜ Mobile HDMI Link (MHL) device detection
➜ Wide Supply Voltage Range 3V to 5.5V
➜ I2C Programmability
➜ Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
➜ Halogen and Antimony Free. "Green" Device (Note 3)
➜ Packaging:
 – 15-CSP 1.5x2.0 (GE)
 – 20-UQFN 3x4x0.5mm (XW)

Description

The PI3USB9281C provides external detection for any USB-device. The part can detect various chargers available in the market, MHL accessories, OTG accessories, and car-chargers per the CEA936 spec. It also integrates a power switch with over-voltage and over-current protections. The VBUSIN input pin can tolerate voltages up to 28V, which is important for USB3.0-PowerDelivery enabled ports. The new USB-3.0-PowerDelivery specification supports voltages up to 20V.

The PI3USB9281C can operate over a temperature range of -40 to +85°C.

Typical applications involve portable & consumer applications, such as tablet, smart phones, digital cameras, and notebooks with integrated Li-ion batteries that charge via USB connectors.

Applications

➜ Personal Media Players
➜ Mobile Phones
➜ Tablet

Block Diagram

Ordering Information

Part Number	Package	Description
PI3USB9281CGEEX	GE	15-Pin, 1.5x2.0 (CSP)
PI3USB9281CXWEX	XW	20-Pin, 3x4 (UQFN)

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. E = Pb-free and Green
5. X suffix = Tape/Reel