Dual-Role, USB Charging-Type Detector Simplifies Host and Client Design

The PI3USB9201 is a dual-role BC 1.2-compliance charging-type detector. It can be programmed to operate in host mode or client mode through I^{2}C.

When operating as a host, the PI3USB9201 provides its status as standard downstream port (SDP), charging down-stream port (CDP), or dedicated charging port (DCP) via the USB D+/D- pins in accordance with BC 1.2. When operating as a client, the PI3USB9201 starts BC 1.2 detection to detect the attached host type. In both host mode and client mode, the detection results are reported through I^{2}C to the controller.

In USB Type-C® connector applications, the PI3USB9201 works with a USB-Type C controller IC to support BC1.2 and USB Type-C charging spec at the same time.

The PI3USB9201 can operate over a temperature range of -40ºC to +85ºC in the tiny 12-contact QFN 2mm x 2mm package.

USB Type-C is a registered trademark of USB Implementers Forum

DIODES Advantage

PI3USB9201 is a dual-role BC 1.2 compliant USB charging-type detector

- **Host Mode-SDP/CDP/DCP**
  USB device plug-in and unplug detection in SDP/CDP modes, support USB switch pass-through for mouse/keyboard wake up

- **Client Mode USB Charging-Type Detection**
  Supports battery charging to BC 1.2 SDP/CDP/DCP with proprietary 1A/2A/2.4A modes

- **1Mhz I^{2}C Interface for Control and Communication with Pin Selection for up to four Slave Address**
  Simple control of PI3USB9201 and supports up to four slave address without I^{2}C bus communication conflict
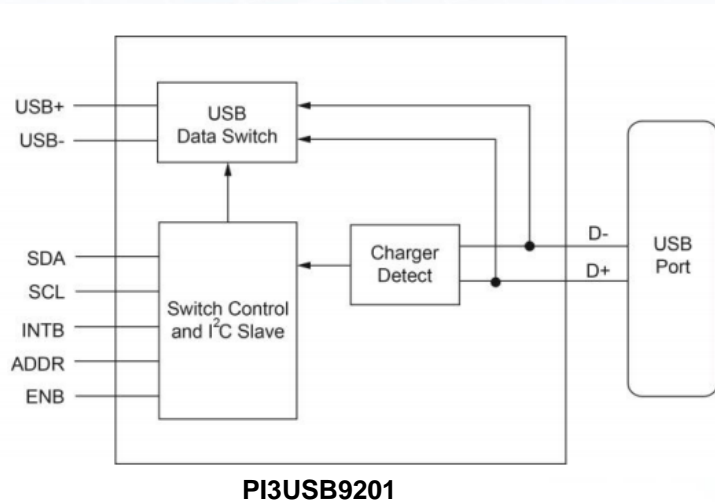
- **Low Power Consumption** – 200µA active, <1µA shut-down
  Simplifies system power consumption management

Applications

- Cell phones, PDAs, Laptops, and Other Portable Devices

New Product
Announcement

PI3USB9201

Block Diagram

PI3USB9201

Portfolio

Part Number	Description	V_{DD}	V_{SW}	T_A	Signal Type	Package
PI3USB9201	Dual-Role USB Charging-Type Detector	2.7~5.5V	0~5.5V	-40ºC ~ +85ºC	Differential	U-QFN2020-12

Ordering Information

Part Number	Package Code	Package	Reel Size	# per Reel
PI3USB9201ZTAEX	ZTA	12-Pin, 2mm x 2mm UQFN	7"	3000

Further Information

https://www.diodes.com/part/PI3USB9201