

USB Type-C™

Power your device with USB PD!



Certified Source and Sink stand-alone controllers for seamless and safe migration to USB Type-C

Combining low power consumption with robust, high-voltage capability, STUSB47 and STUSB45 USB Type-C Power Delivery controllers autonomously support full USB PD negotiation for Source and Sink applications respectively. Manufactured using ST's high-performance analog CMOS process, these ICs offer built-in over-voltage protection up to 22 V for the CC lines and up to 28 V for the high-voltage pins to prevent damage in the event of an accidental short-circuit to V_{BUS} .

KEY FEATURES

- High-voltage analog ICs
- Short-to- V_{BUS} overvoltage protection
- High integration:
 - V_{CONN} switch
 - Discharge path
 - V_{BUS} gate drivers
 - V_{BUS} monitoring
 - Dead battery support

KEY BENEFITS

- Plug and Play
- Easy device configuration
- Reliable and certified hardware
- Robust and safe for devices and users

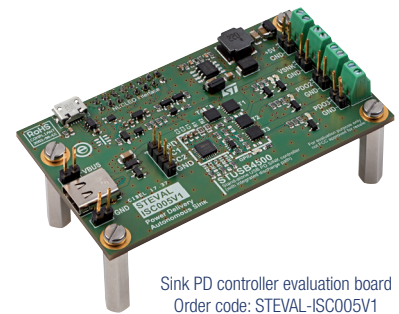
KEY APPLICATIONS

- Source
 - AC/DC power supplies
 - DC/DC power hubs
 - Power banks
 - Docking
 - TV, displays
 - Set-top-boxes
 - Gaming
- Sink
 - Portable consumer devices
 - Hard disk drives
 - Camcorders and cameras
 - IoT and drones
 - Battery-powered devices and accessories
 - Industrial and LED lighting
 - Healthcare, wearables and handheld devices
 - Any USB Type-C sink device

STUSB4500

Stand-alone USB PD controller for Sink applications

STUSB4500 addresses USB Type-C power-sink devices. Based on the default power profiles (PDO) configuration stored in internal non-volatile memory, this stand-alone controller IC implements proprietary algorithms in order to negotiate a Power Delivery contract with a source without any internal or external software support (Auto-run mode), making it the ideal device for automatic High Power Profile charging, especially from a Dead Battery Power state. Certification ID: 1000133



Sink PD controller evaluation board
Order code: STEVAL-ISC005V1

STUSB4700/10

Stand-alone USB PD controller for SOURCE applications

The STUSB47 series target power-source applications such as power supplies, power hubs, docking stations, smart plugs, and displays. It integrates all the circuitry needed to negotiate Power Delivery with connected devices, and can support up to 5 power profiles (PDO). Through its embedded non-volatile memory, it is fully customizable and can handle the entire connection setup without the need for a microcontroller. For multi-port applications, an I²C interface allows the connection of multiple STUSB47 ICs to a microcontroller to implement power-sharing algorithms.

STUSB4700 Certification ID: 1030023

STUSB4710 Certification ID: 1000125



Source PD controller with DC/DC evaluation board
Order code: STEVAL-ISC004V1

BLOCK DIAGRAM

