


Fast and easy migration from DC barrel to USB-C / PD

EVAL-SCS006V1
STUSB4531 reference design
Fast & easy migration to USB-C up to 100 W (20 V - 5 A)




The board is pre-configured with 4 power profiles (datasheet configuration).

- PDP: 30W
- PDP1 (fixed): 5 V / 3 A
- PDP2 (fixed): 9 V / 3 A
- PDP3 (fixed): 15 V / 2 A
- PDP4 (variable): 9-20 V / 1.5 A

After connection to compatible USB PD source, a LED turns ON according to the USB PD negotiation result with the following colors:

- Blue: PDP1
- Blue + red: PDP2
- Blue + green: PDP3
- Blue + yellow: PDP4



Features

- USB Power Delivery SINK port (up to 100 W)
- Dead battery support
- Short-to-VBUS protection up to 28 V
- Low BOM cost, small footprint
- Status LED
- Certified reference design (board TID: # 13957)

Description

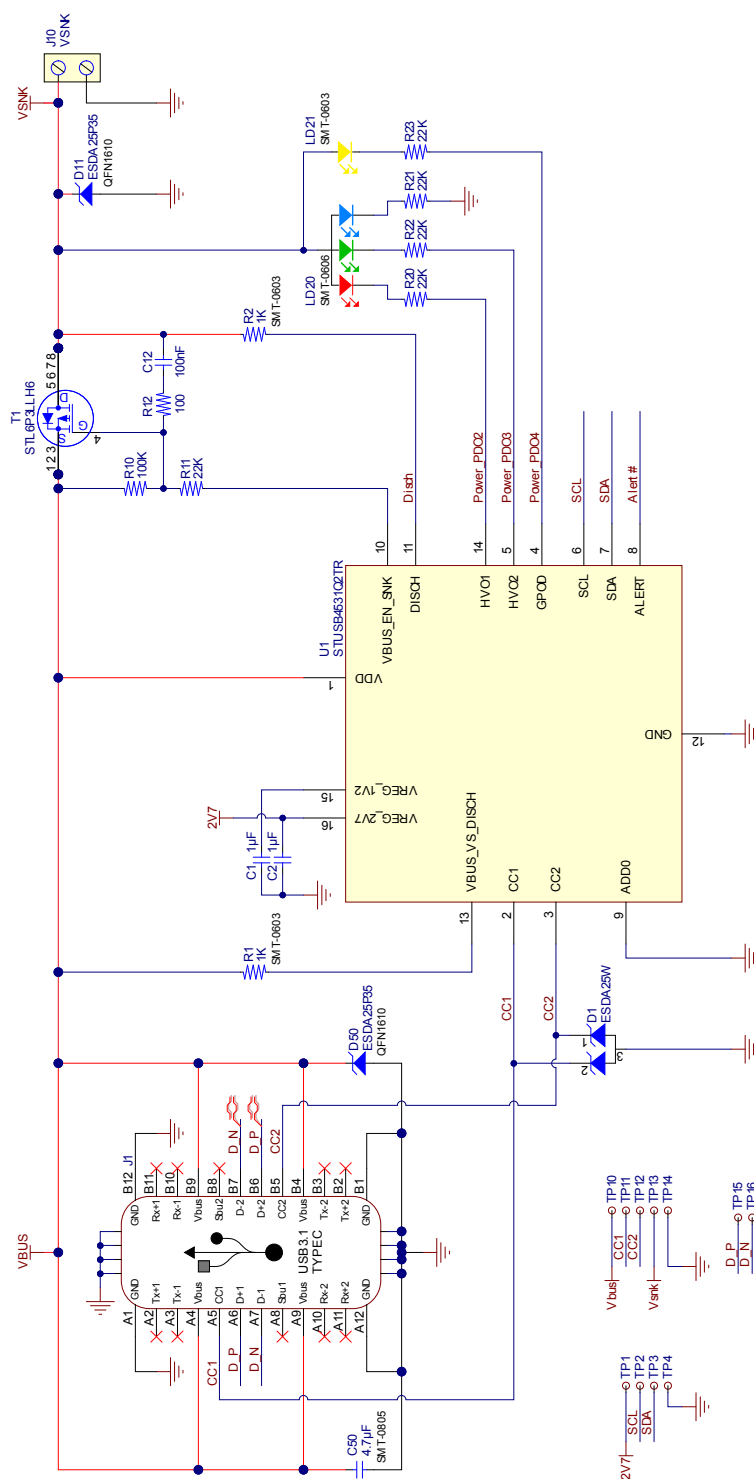
This board illustrates a minimal USB PD SINK implementation. It can be used as a small footprint reference design for fast migration from a custom power plug or DC barrel to a USB Type-C® connector.

It is based on the STUSB4531 USB PD controller IC (USB Type-C® rev 2.4, USB PD rev 3.2) and is certified as a "Power Sinking Device" (TID #13956).

Maturity status link	
STUSB4531QTR	Standalone USB PD SINK controller

1 Application diagram

Figure 1. Application circuit



Revision history

Table 1. Document revision history

Date	Revision	Changes
28-Oct-2024	1	Initial release.
25-Sep-2025	2	Updated feature, description on the cover page, and Figure 1.
12-Nov-2025	3	Updated figure on the cover page.

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