

A closer look at your new BoosterPack Development Board

Featured USB PD Controller: TPS65982

This BoosterPack is great for...

- USB Type-C testing and verification
- USB Power Delivery testing and verification
- Application Emulation (Notebook, Dock, Dongle, Charger, and more!)

What comes in this box?



**TPS65982-EVM
BoosterPack**



This Quick
Start Guide



Documentation and Software at
www.ti.com/tool/tps65982-evm



TPS65982 - USB Type-C & USB PD Controller Power Switch & High Speed Multiplexer

- Compliant to USB Type-C 1.x and USB PD 2.x specifications
- Supports all Type-C High Current Modes
 - Integrated Port Power Switches up to 20V @ 3A
 - Supports bi-directional external power NMOS FETs
- Fully compliant USB PD Baseband modem per USB PD2.x
 - BMC encoder/decoder
 - Physical Layer with CRC
 - Policy and Policy Engine
- Performs all CC pin functions
 - Cable Detection and Cable Orientation
- Integrated HS Mux
 - CC/2, SBU1/2, USB TP/TN, USBBP/BN
- Support for Guest Port Protocols
 - Display Port, Thunderbolt, and more
- Flexible system interfaces
 - I2C Slave/Master, SPI, Simple connection to HD3SS460 SS Mux for Display Port/USB3.0

TPS65982-EVM Overview

DIP Switch
Select preconfigured power profiles (application emulations)

How to Power: Barrel jack
Power board with A/C power adapter with J6 shunt inserted

Reset Switch
Reset EVM without disconnecting power

TPS65982
USB Type-C & USB PD Controller Power Switch & High Speed Multiplexer

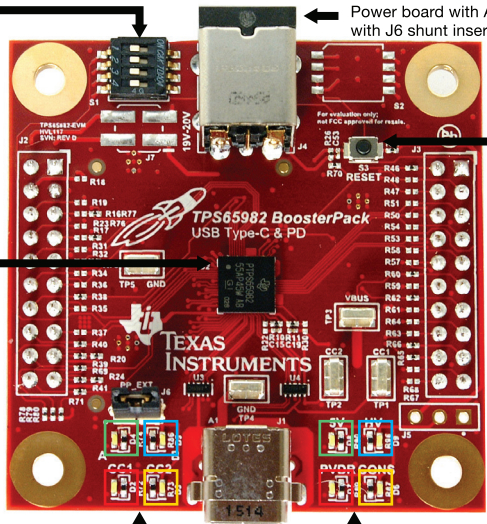
LED Indicators:

- **A** – Alternate Modes; default is DisplayPort
- **B** – App FW loaded and/or Thunderbolt Alternate Mode
- **CC1** – Cable Orientation Right-side up, CC1
- **CC2** – Cable Orientation Upside down, CC2

LED Indicators:

- **5V** – 5 Volts
- **HV** – 12 or 20 Volts
- **PVDR** – Power Provider
- **CONS** – Power Consumer

USB Type-C Connector



DIP Switch (S1) Settings

Find more information @
ti.com/product/TPS65982/technicaldocuments

Config ID#	Switch S1	Port Type	Type C Power	PD Source Capabilities			PD Sink Capabilities			Alternate Mode Support		PD Control	Application
		Data Power	A	V @ A	V @ A	V @ A	V @ A	V @ A	V @ A	TBT Support	DP Support		
0	■←0 ■←0 ■←0 ■←0	DRP Rp/Rd	3	5 @ 3	12 @ 3	20 @ 5	5 @ 0	-	-	-	UFP_D Config C & D	Init DR Swap to UFP Init PR Swap to Src	Docking System
1	1→■ ■←0 ■←0 ■←0	DRP Rp/Rd	3	5 @ 3	-	-	5 @ 3	12-20 @ 3	-	-	DFP_D Config C, D, & E	Init DR Swap to DFP Init PR Swap to Snk	Tablet/Ultrabook
2	■←0 1→■ ■←0 ■←0	DRP Rp/Rd	3	5 @ 3	12 @ 3	-	5 @ 0	20 @ 3	-	Yes	DFP_D Config C, D, & E	Init DR Swap to DFP Init PR Swap to Snk	Thunderbolt Notebook
3	1→■ 1→■ ■←0 ■←0	DRP Rp/Rd	3	5 @ 3	20 @ 3	-	5 @ 0	20 @ 3	-	-	DFP_D Config C, D, & E	Init DR Swap to DFP Init PR Swap to Snk	Notebook, Mobile Workstation
4	■←0 ■←0 1→■ ■←0	UFP Rd	-	-	-	-	5 @ 900mA	-	-	-	UFP_D Config E	N/A	DP Dongle
5	1→■ ■←0 1→■ ■←0	DRP Rp/Rd	3	5 @ 3	12 @ 3	20 @ 5	5 @ 0	-	-	Yes	DFP_D Config C, D, & E	Init PR Swap to Src	Thunderbolt Docking System
6	■←0 1→■ 1→■ ■←0	DFP Rp	3	5 @ 3	12 @ 3	20 @ 5	-	-	-	-	-	N/A	High Power Charger Adapter
7	1→■ 1→■ 1→■ ■←0	UFP Rd	-	-	-	-	5 @ 3	12 @ 3	20 @ 5	-	-	N/A	High Power Bus Powered Device
8	■←0 ■←0 ■←0 1→■	DFP Rp	3	5 @ 3	12 @ 3	-	5 @ 0	-	-	Yes	DFP_D Config C, D, & E	N/A	Thunderbolt Desktop, Add-in Card
9	1→■ ■←0 ■←0 1→■	DFP Rp	3	5 @ 3	12 @ 3	-	5 @ 0	-	-	-	DFP_D Config C, D, & E	N/A	Desktop, Add-in Card
10	■←0 1→■ ■←0 1→■	UFP Rd	-	-	-	-	5 @ 3	12 @ 1.2	20 @ .75	Yes	-	N/A	Thunderbolt Bus-Powered Device
11	1→■ 1→■ ■←0 1→■	DRP Rp/Rd	3	5 @ 3	20 @ 3	-	5 @ 1.5	20 @ 3	-	-	UFP_D Config D	Init DR Swap to UFP Init PR Swap to Src	Mini-Dock System
12	■←0 ■←0 1→■ 1→■	DFP Rp	3	5 @ 3	12 @ 3	-	-	-	-	-	-	N/A	Mid Power Charger Adapter
13	1→■ ■←0 1→■ 1→■	UFP Rd	-	-	-	-	-	-	-	-	-	N/A	UFP Only
14	■←0 1→■ 1→■ 1→■	DFP Rp	3	-	-	-	-	-	-	-	-	N/A	DFP Only
15	1→■ 1→■ 1→■ 1→■	DRP Rp/Rd	3	-	-	-	-	-	-	-	-	N/A	DRP Only

Note: To achieve 5A, an active or electronically marked cable is needed