



ON Semiconductor®

Power Bank Solution

LC709501F-A06 EVB Quick Guide

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ON Semiconductor®



1. LC709501F-A06 EVB Overview

2. A06 EVB Functions

***Support USB Power Delivery(PD)

New

- USB1 PD(5V-12V) Output

New

- USB1 PD(5V-12V) Input

New

- USB1&USB3 2-port(PD & 5V) Output

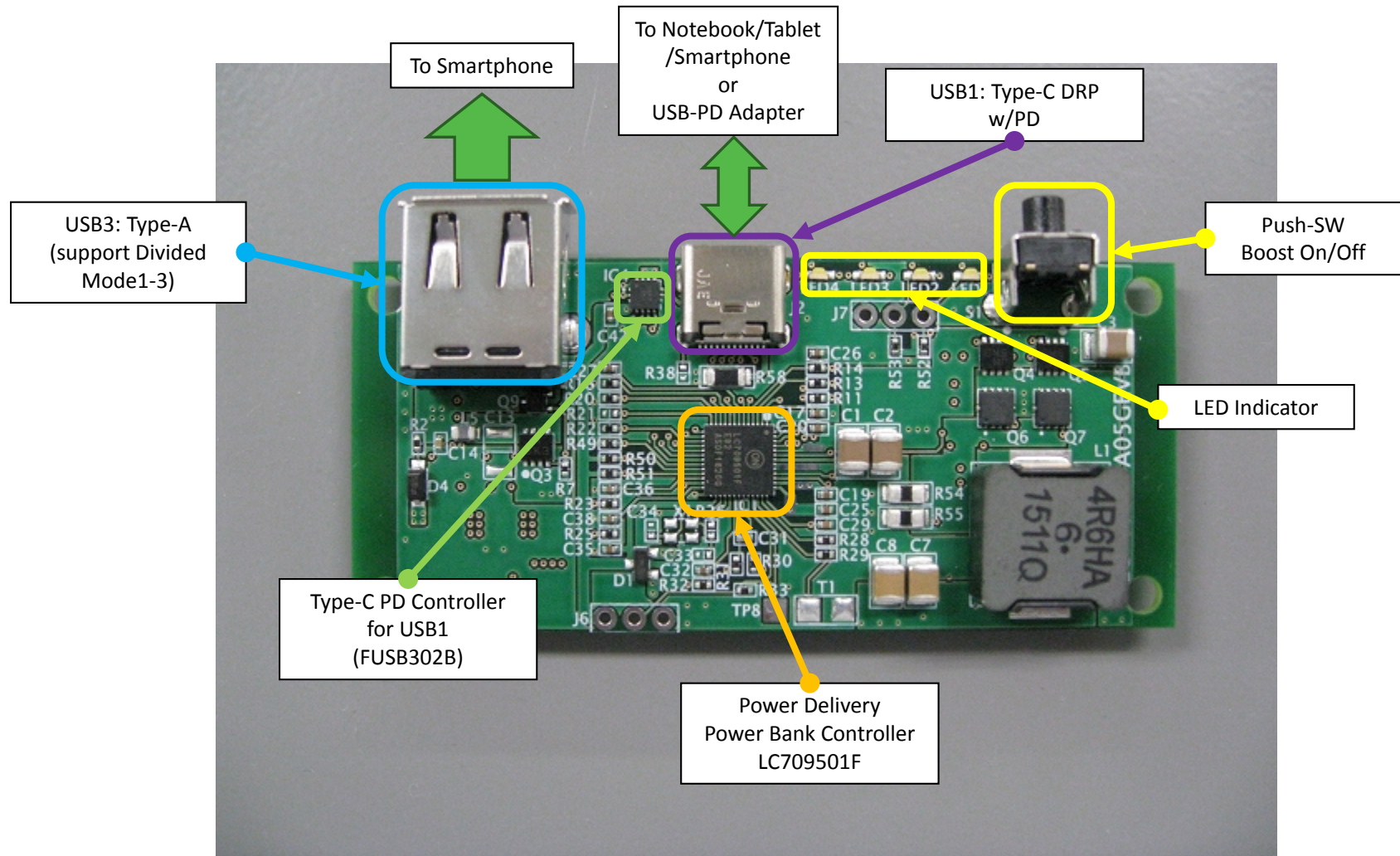
- USB1 QC3.0 Output (for none-PD device)

- USB1&USB3 2-port(QC3.0 & 5V) Output

- USB1 5V Output

- USB3 5V Output

LC709501F : A06(Type-C w/PD, Type-A) EVB Overview



LC709501F: A06 Feature details

Hardware	Board		LC709501A05GEVB
Software	Version		LC709501F-FW06
Input	Types	Type-C(DRP)	✓
	Mode	SDP	Auto Detection
		CDP	
		DCP	
		Divided Mode1(1A)	
		Divided Mode2(2.1A)	
		Divided Mode3(2.4A)	
		Power Delivery	
	Charge	5V	✓ 3.0A
		9V	✓ 3.0A
		12V	✓ 2.25A
	Max Charge Wattage input1	Input	27W
Output-1	Types of output1	Type-C(DRP)	✓
	Mode of output1	SDP(HOST)	N/A
		DCP	✓
		Divided Mode1(1A)	N/A
		Divided Mode2(2.1A)	N/A
		Divided Mode3(2.4A)	N/A
		QC3.0	✓
		QC2.0	✓
		Power Delivery	✓
	Discharge of output1	5V	✓ 3.0A
		9V	✓ 3.0A
		12V	✓ 2.25A
	Max Charge Wattage output1	Output1	27W

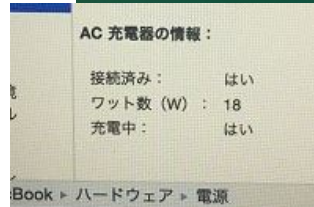
Output-2	Types of output2	Type-A	✓
	Mode of output2	SDP(HOST)	N/A
		DCP	✓
		Divided Mode1(1A)	✓
		Divided Mode2(2.1A)	✓
		Divided Mode3(2.4A)	N/A
		QC3.0	N/A
		QC2.0	N/A
	Discharge of output2	5V	✓ 2A
		9V	N/A
		12V	N/A
	Max Charge Wattage output2	Output2	10W
HOST	PassThru		N/A
	HOST (Smartphone Communication)	Host	N/A
		Android	N/A
		iOS	N/A
Smart phone Insert	Auto Detect	Case GND	-
		GND HighZ	-
		VDD Drop	✓
LED	LED		4
Button	Button		✓
Error	OVP		✓
	OC		✓
	SHORT		✓
	Thermal		✓

LC709501F : A06 EVB Functions

	USB1	USB3	Function	
	Type-C DRP w/PD	Type-A		
LC709501F-A06 Ver. 0.01	Note-PC/Tablet /Smartphone_1	N/A	USB1 PD(5V-12V) Output	FUNC1
	PD Adapter	N/A	USB1 PD(5V-12V) Input	FUNC2
	Note-PC/Tablet /Smartphone_1	Smartphone_2	USB1&USB3 2-port (PD & 5V) Output	FUNC3
	(None-PD) Smartphone_1	N/A	USB1 QC3.0 Output	-
	Smartphone_1	Smartphone_2	USB1&USB3 2-port(QC3.0 & 5V) Output	-
	N/A	Smartphone_2	USB3 5V Output	-

LC709501F : <FUNC1> USB1 PD(5V-12V) Output

USB1: Apple macbook
Type-C DRP



USB1 PD+12V Output

USB1 Voltmeter

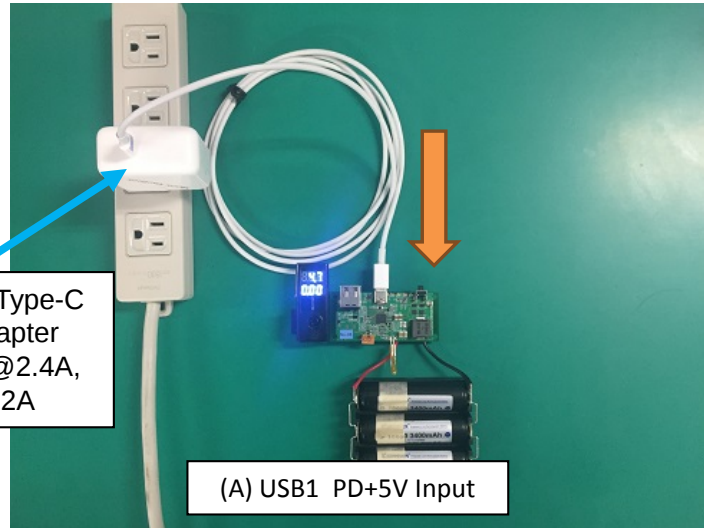
<FUNC1> USB1 PD(5V-12V) Output

- ◆ When a PD device is plugged into USB1 Type-C DRP connector, it will automatically detect the PD device by the communication of the "USB Power Delivery" specifications and check the chargeable types to supply voltage within the range of 5V~12V.
ex.) macbook:12V output
- ◆ LED1 will flash during power supply.
- ◆ Power supply will automatically stop when full-charge is detected on the smartphone.
- ◆ Type-C cable can be connected upside down for the automatic detection and power supply.

USB1: LG G5
Type-C DRP

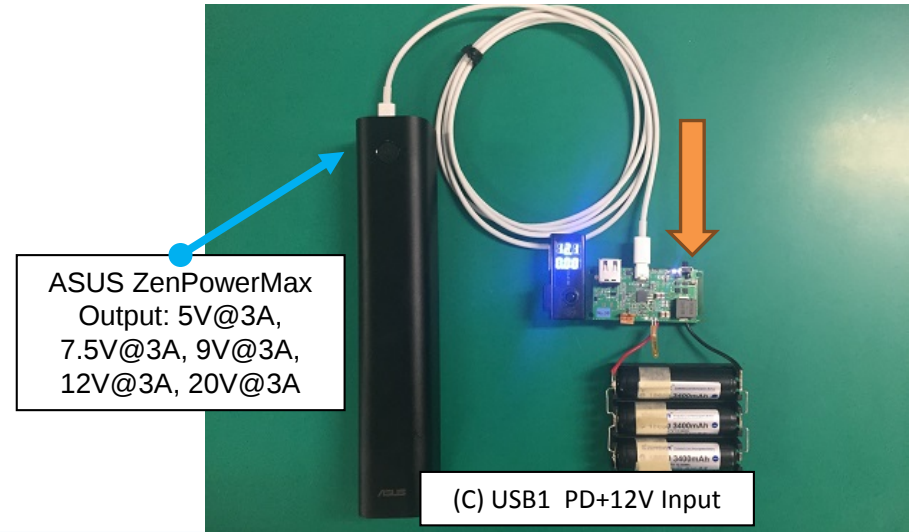
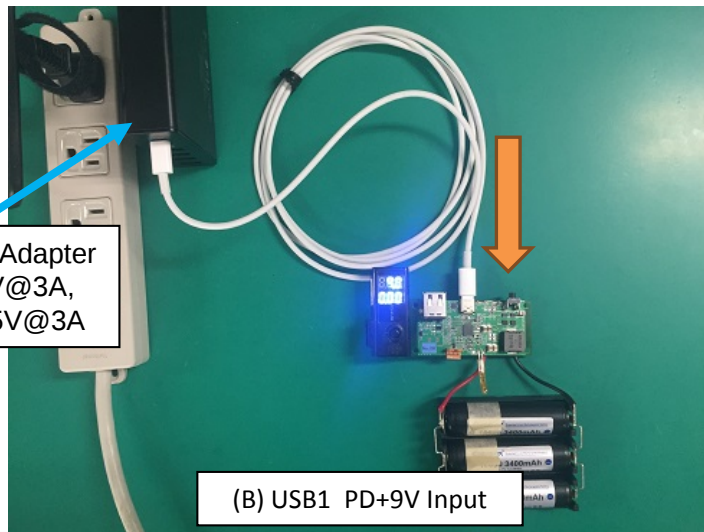
USB1 PD+9V Output

LC709501F : <FUNC2> USB1 PD(5V-12V) Input



<FUNC2> USB1 PD(5V-12V) Input

- ◆ When an USB adapter is plugged into an USB1 Type-C DRP connector, it choose the most suitable voltage by the communication of the “USB Power Delivery” specifications, it will automatically start to charge the internal battery.
- ◆ Number of LEDs will flash based on the battery remaining amount while charging internal battery.
- ◆ Battery charging will automatically stop once it is fully charged.



LC709501F : <FUNC3> USB1&USB3 2-port(PD & 5V) Output

USB1:
Xiaomi MI 5
Android 6.0.0
USB Type-C x1(DRP)
QC3.0 support

USB3: Apple
macbook
Type-C DRP

<FUNC3> USB1&USB3 2-port(PD&5V) Output

- ◆ Two smartphones can be charged at the same time when Smartphone_1 is connected to USB1 Type-C DRP and Smartphone_2 is connected to USB2 Type-A connector.
- ◆ At this time, USB3 is supplied with a voltage of 5V fixed, USB1 is supplied a voltage within a range of 5V – 12V.
- ◆ LED1 is flashing while charging two smartphones.

USB3 5V Output

USB1 PD 12V Output