



## ZENITRON 45W AC/DC Type-C PD Adapter Design

### Description

The CCG3PA 45W Power Adapter Board is a receptacle based Type-C power adapter. The three major components on the board are Diodes's AP3108L which offers the current mode PWM switching, APR346 is a Synchronous Rectification Controller, and Cypress's CYPD3174 is USB PD and Qualcomm Quick Charge 4/4+ Controller for implementing quick charger decoder functions.

### Features

1. PD 2.0 & 3.0 compliant
2. QC2.0 / 3.0 & 4.0 compatible
3. One USB TYPE-C connector with QC and PD
4. 45W output power ability
5. Universal input
6. Energy Star Level VI

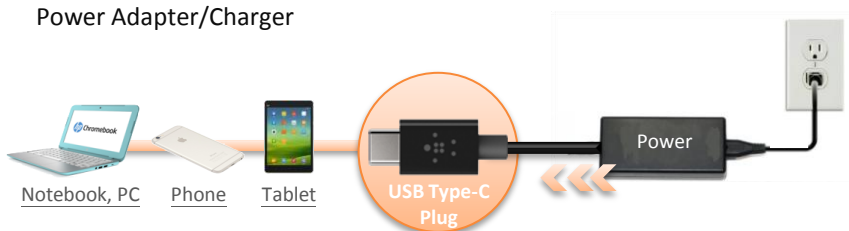


### Electrical Spec.

1. Input AC Voltage: 90~264 VAC
2. Type-C Output Voltage:
  - 20V/2.25A
  - 15V/3A
  - 9V/3A
  - 5V/3A

### Applications

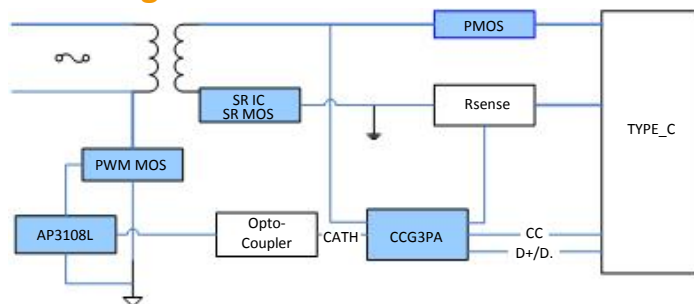
Power Adapter/Charger



### Main Component From ZENITRON

Function	DIODES	infineon	CYPRESS
PWM IC	AP3108L		
PWM MOS		IPP65R380E6	
Type_C/PD IC			CCG3PA
SR IC	APR346		
SR MOS		BSC123N10LS	
Switch P MOS	DMG4413LSS-13	IRF9317PBF	

### Block Diagram



### Efficiency

Vin	Vo	25% Load	50% Load	75% Load	100% Load	Average Efficiency	Energy Star Level VI	COC Tier2	10% Load
115V/60Hz	5V-3A	87%	88%	87%	86%	87%	>81.39%	>81.84%	80%
	9V-3A	89%	89%	89%	89%	89%	>86.62%	>87.3%	83%
	12V-3A	88%	90%	89%	89%	89%	>87.4%	>88.3%	82%
	15V-3A	89%	90%	89%	89%	89.50%	>87.73%	>88.85%	83%
	20V-2.25A	88%	89%	89%	89%	88.50%	>87.73%	>88.85%	82%
230V/50Hz	5V-3A	84%	87%	87%	86%	86.67%	>81.39%	>81.84%	79%
	9V-3A	87%	89%	89%	89%	88%	>86.62%	>87.3%	79%
	12V-3A	88%	90%	90%	90%	89%	>87.4%	>88.3%	79%
	15V-3A	88%	90%	90%	90%	89%	>87.73%	>88.85%	80%
	20V-2.25A	88%	90%	90%	90%	89%	>87.73%	>88.85%	78%

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