| Package		USBA Protocol	
SDC5413C	SOT23-5	QC3.0+ QC3.0 AFC FCP HVSCP ...	5V 9V
SDC5413D	SOT23-5	QC3.0+ QC3.0 AFC FCP HVSCP Mi_Charger_Tubro...	5V 9V 12V
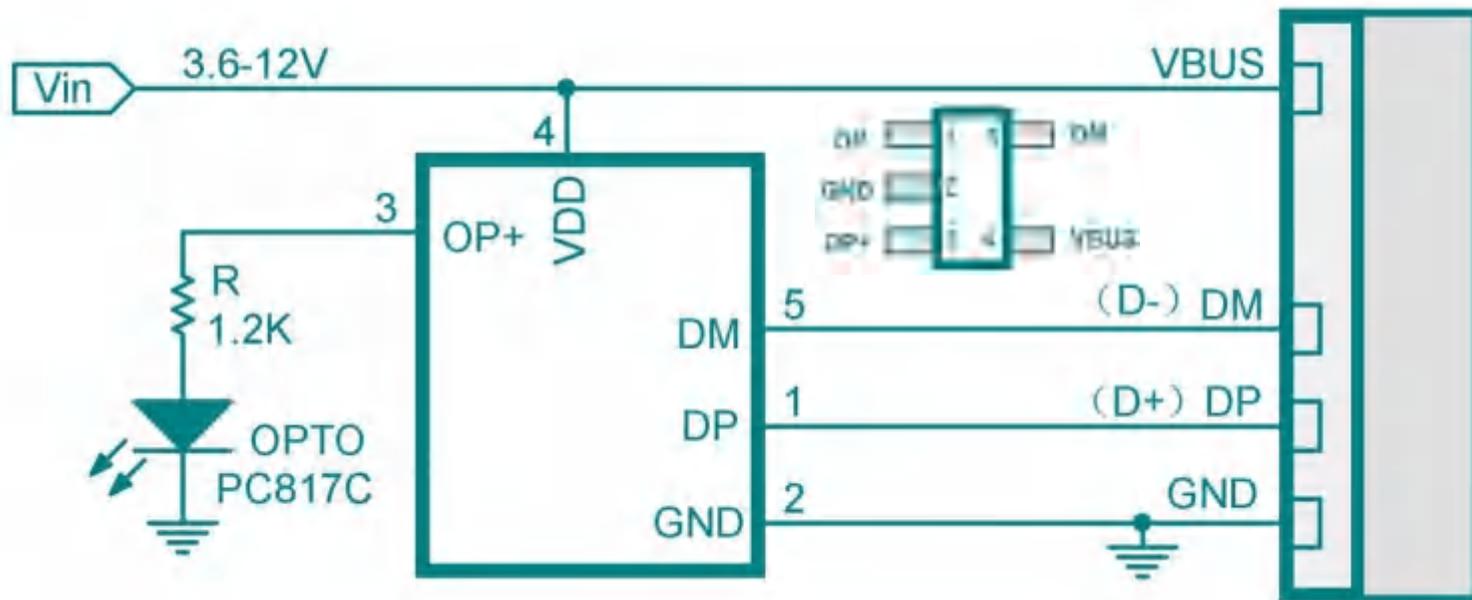
SDC5413x 支持最新的高功率和最新协议规范，留意功率余量或恒功率主控方案，避免过载保护或烧机

SDC5413x 集成输出电容泄放电路。部分协议需要订制；使用转接小板或电解电容一致性差，建议VBUS添加100nF/25V电容

Do not connect R_Load Resistor

110V-265VAC

2A/250V

F1

CN1

BD1
600V/2A

EC2
10-34uF

R1
200K

C1
2.2nF/630V

T1

Np   Sp

Layout Notice

IC2
GND
VCC

C2
1uF/25V

EC1
680uF/25V

GND

R2
82

D1
A7

VCC
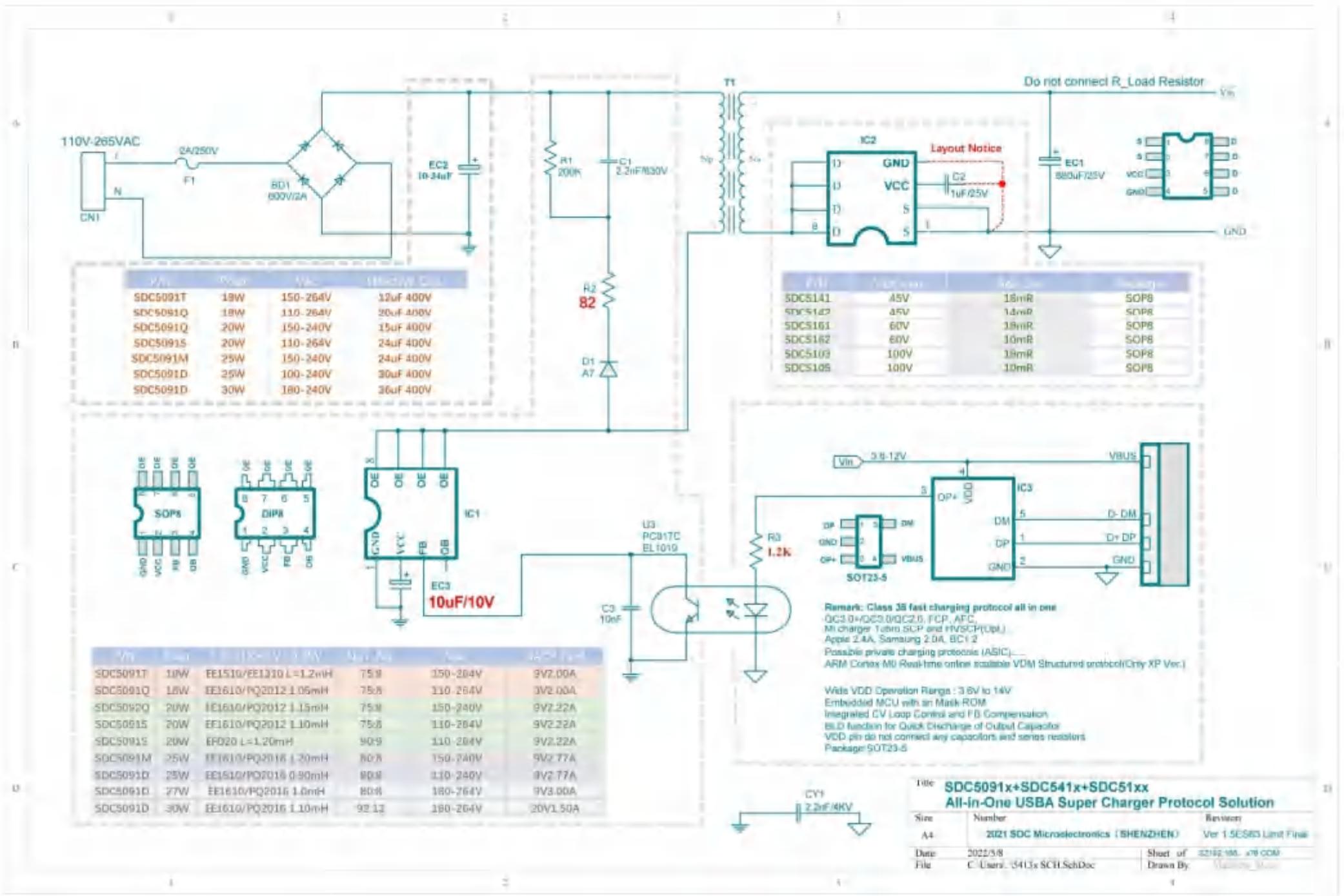
P/N	Power	Vac	Effective Cin
SDC5091T	18W	150-264V	12uF 400V
SDC5091Q	18W	110-264V	20uF 400V
SDC5091Q	20W	150-240V	15uF 400V
SDC5091S	20W	110-264V	24uF 400V
SDC5091M	25W	150-240V	24uF 400V
SDC5091D	25W	100-240V	30uF 400V
SDC5091D	30W	180-240V	36uF 400V

P/N	Voltage	Rds on	Package
SDC5141	45V	18mR	SOP8
SDC5142	45V	14mR	SOP8
SDC5161	60V	18mR	SOP8
SDC5162	60V	10mR	SOP8
SDC5103	100V	18mR	SOP8
SDC5105	100V	10mR	SOP8

SOP8

DIP8

GND VCC FB OB

IC1

EC3
10uF/10V

U3
PC817C
EL1019

C3
10nF

R3
1.2K

Vin 3.6-12V

VBUS

OP+   VDD
IC3

DP   DM
GND   DM
OP+   VBUS
SOT23-5

DM   D- DM
DP   D+ DP
GND   GND

Remark: Class 3B fast charging protocol all in one
QC3.0+/QC3.0/QC2.0, FCP, AFC,
Mi charger Turbo SCP and HVSCP(Upt.)
Apple 2.4A, Samsung 2.0A, BC1.2
Possible private charging protocols (ASIC)
ARM Cortex M0 Real-time online scalable VDM Structured protocol(Only XP Ver.)

Wide VDD Operation Range : 3.6V to 14V
Embedded MCU with an Mask ROM
Integrated CV Loop Control and FB Compensation
BLD function for Quick Discharge of Output Capacitor
VDD pin do not connect any capacitors and series resistors
Package:SOT23-5

P/N	Power	L(IEC=V 3.0KV)	Eff %	Vac	Vout/Iout
SDC5091T	18W	EE1510/EE1310 L=1.2mH	75%	150-264V	9V2.00A
SDC5091Q	18W	EE1610/PQ2012 1.05mH	75%	110-264V	9V2.00A
SDC5092Q	20W	EE1610/PQ2012 1.15mH	75%	150-240V	9V2.22A
SDC5091S	20W	EE1610/PQ2012 1.10mH	75%	110-264V	9V2.22A
SDC5091S	20W	EFD20 L=1.20mH	90%	110-264V	9V2.22A
SDC5091M	25W	EE1610/PQ2016 1.20mH	80%	150-240V	9V2.77A
SDC5091D	25W	EE1610/PQ2016 0.90mH	80%	110-240V	9V2.77A
SDC5091D	27W	EE1610/PQ2016 1.0mH	80%	180-264V	9V3.00A
SDC5091D	30W	EE1610/PQ2016 1.10mH	92%	180-264V	20V1.50A

CY1
2.2nF/4KV

Title	SDC5091x+SDC541x+SDC51xx All-in-One USBA Super Charger Protocol Solution		
Size A4	Number 2021 SDC Microelectronics (SHENZHEN)		Revision Ver 1.5ES83 Limit Final
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