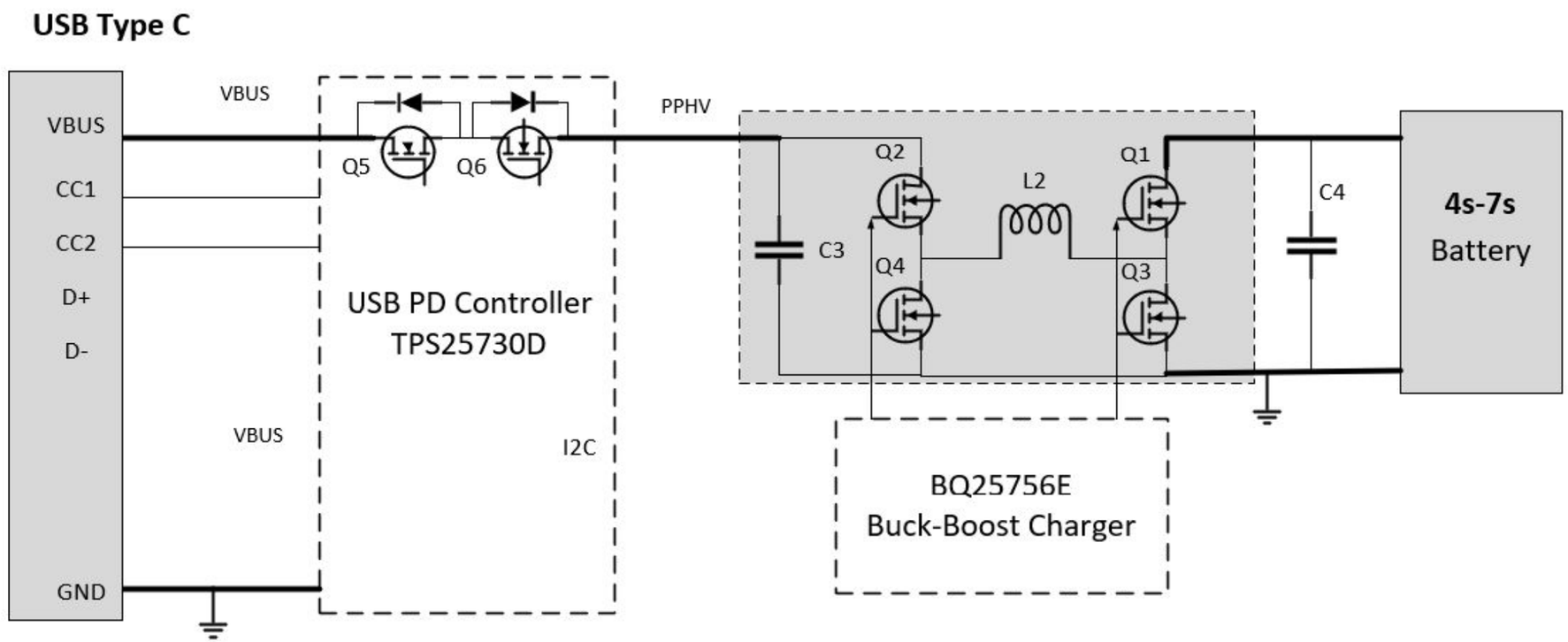
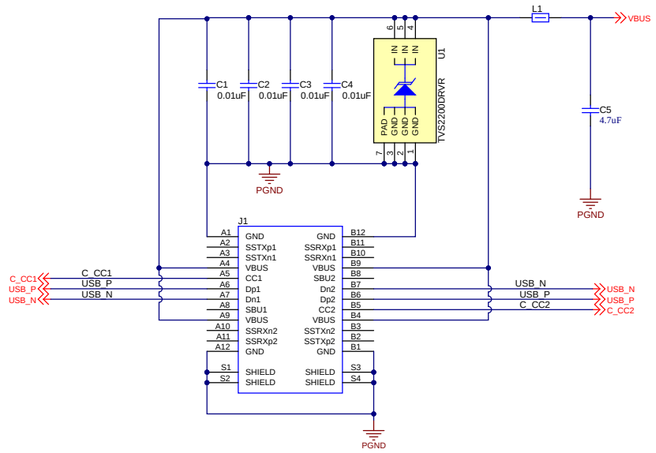
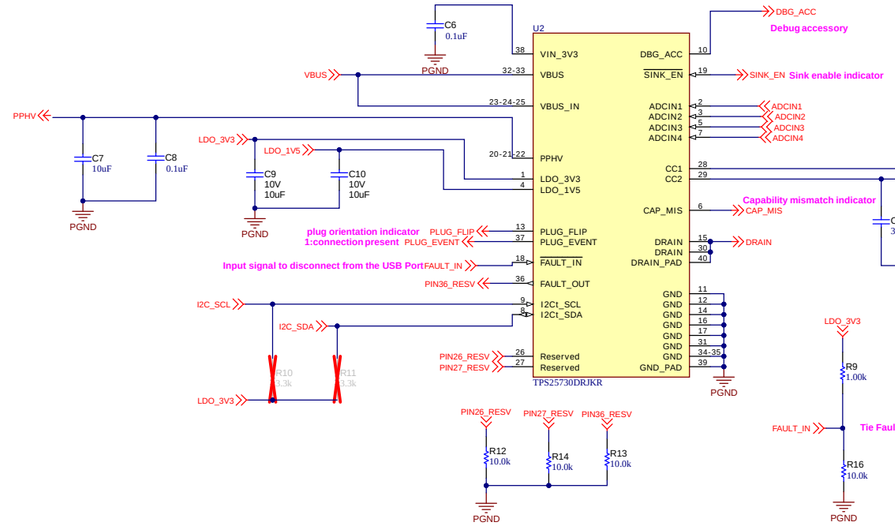
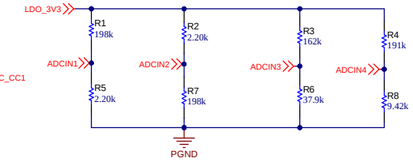
Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A

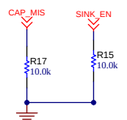


Orderable: ChangeMe in variant	Designed for: Public Release	Mod. Date: 4/3/2024
TID #:	Project Title: PMP41100	
Number: PMP41100 Rev: E1	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet 1 of 4
Drawn By:	File: SBD.SchDoc	Size: A2
Engineer: Max Wang	Contact: http://www.ti.com/support	http://www.ti.com









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TID #:	Project Title: PMP41100	
Number: PMP41100 Rev: E1	Sheet Title:	
SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 2 of 4
Drawn By:	File: PD Controller.SchDoc	Size: A2
Engineer: Max Wang	Contact: http://www.ti.com/support	http://www.ti.com

From USB Port: 5-20V

2m default, higher Resister for better regulation

VSYS

PPHV

R18 0.005

R20 10

R21 10

C13 470nF 16V

ACP

ACN

C15 100nF 100V

C16 100nF 100V

PGND

PGND

UV-4.2v OV-SET to 25

Use Kelvin sense for ACP/ACN

R30 1.00M

ACUV

VAC_UV_DPM minimum setting is 4.2V

ACUV=1.1V

C19 100nF 100V

R31 383k

PGND

ACOV=1.2V

R52 for ACOV setting

ACOV

C22 100nF 100V

R32 69.8k

PGND

PGND

HIDRV1

R25 0

Q2 SiSS50DN

L: 2.2uH-15uH DCR: 1.75m-60m

PCMB065T-8R2MS

L2 8.2uH

SW1

SW2

LODRV1

R28 0

Q4 SiSS50DN

PGND

Q1 SiSS50DN

R22 0

HIDRV2

Q3 SiSS50DN

R29 0

LODRV2

SiSS50DN

PGND

P_OUT

BAT

5m is fixed, do not change

R19 0.005

R23 10

R24 10

C14 470nF 16V

SRP

SRN

C17 100nF 100V

C18 100nF 100V

PGND

PGND

Use Kelvin sense for SRP/SRN

4S-7S/16V-31.5V/900mA

PGND

J2

TS

1725669

To BATTERY PACK

JEITA compliance

REGN

R26 5.23k

TS

R27 30.1k

PGND

add 10K resistor on Ts pin to emulate the normal temperarure operation if no external NTC resistor placed across it

SW1

REGN

C20 100nF 25V

D1 V1FM10-M3/H

D2 V1FM10-M3/H

SW2

C21 100nF 25V

BTST1

BTST2

U3

PGND

C23 4.7µF 25V

REGN

MODE

ACP

ACN

PPHV

C25 100V 1µF

PGND

REGN

C26 25V 4.7µF

PGND

/INT

I2C_SDA

I2C_SCL

R42 2.2

R43 2.2

/PG

STAT1

STAT2

31	NC	HIDRV1	27
23	DRV_SUP	BTST1	26
15	NC	SW1	28
16	NC	LODRV1	25
17	MODE	VAC	32
30	ACP	LODRV2	21
29	ACN	SW2	18
33	VAC	BTST2	20
34	ACUV	HIDRV2	19
35	ACOV	SRP	14
24	REGN	SRN	13
22	PGND	FB	12
7	CE	FBG	11
3	INT	TS	8
2	SDA	ILIM_HIZ	10
1	SCL	ICHG	9
6	PG	FSW_SYNC	36
4	STAT1		
5	STAT2	PGND	37

BQ25756ERRVT

HIDRV1 BTST1 SW1 LODRV1 PPHV LODRV2 SW2 BTST2 HIDRV2 SRP SRN FB FBG TS ILIM_HIZ ICHG FSW_SYNC

PGND

LDO_3V3

R36 10.5k

R37 10.5k

R38 10.5k

R39 10.5k

/PG

/INT

STAT1

STAT2

EVM Set to 300KHz

FSW_SYNC

R40 100k

PGND

Default 3K

MODE

R41 3.01k

PGND

BAT

R33 1.1

R34 0.1% 249k

C24 100V 100pF

FB

VFB=1.536V

R35 12.7k

7S (31.5V)

FBG

7S BAT Selection Table

VBAT	R47(Rfblow)
7S/31.5V	12.7K
6S/27V	15K
5S/22.5V	18.3K
4S/18V	23.2K

1,FBG Pin internal to ground 12R resistor

2, turn off feedback network to minimize feedback resistor loss when not working

VSYS

C27 35V 47uF

C31 100nF 50V

C28 50V 4.7µF

PGND

P_OUT

C29 50V 47uF

C32 100nF 50V

C30 50V 4.7µF

PGND

PPHV

C33 35V 68uF

C34 50V 4.7µF

PGND

BAT

C35 50V 4.7µF

C36 50V 47uF

PGND

Set Charge current throuhg ICHG pin or Register, the lower will win

ILIM_HIZ

Set Input Current Limit throuhg ILIM_HIZ pin or Register, the lower will win

R44 6.65k

ILIM=KLIM/RLIM=3A

KLIM=50A*Kohm for 2m Input Current Sense

KLIM=20A*Kohm for 5m Input Current Sense

PGND

ICHG

ICHG=KICHG/RCHG=900mA

R45 56.2k

KICHG=50A*Kohm

PGND

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Number: PMP41100	Rev: E1	Sheet Title:	
SVN Rev: Not in version control		Assembly Variant: 001	Sheet 3 of 4
Drawn By:		File: Charger BQ25756.SchDoc	Size: A2
Engineer: Max Wang		Contact: http://www.ti.com/support	

http://www.ti.com

PCB Number: PMP41100
PCB Rev: E1

PCB
LOGO
Texas Instruments

PCB
LOGO
FCC disclaimer

Variant/Label Table	
Variant	Label Text
001	ChangeMe!
002	ChangeMe!

LBL1
PCB Label
THT-14-423-10
Size: 0.65" x 0.20 "

ZZ1
Label Assembly Note
This Assembly Note is for PCB labels only

ZZ2
Assembly Note
These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ3
Assembly Note
These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ4
Assembly Note
These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

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SVN Rev: Not in version control	Assembly Variant: 001	Sheet: 4 of 4
Drawn By:	File: Hardware.SchDoc	Size: A2
Engineer: Max Wang	Contact: http://www.ti.com/support	http://www.ti.com

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