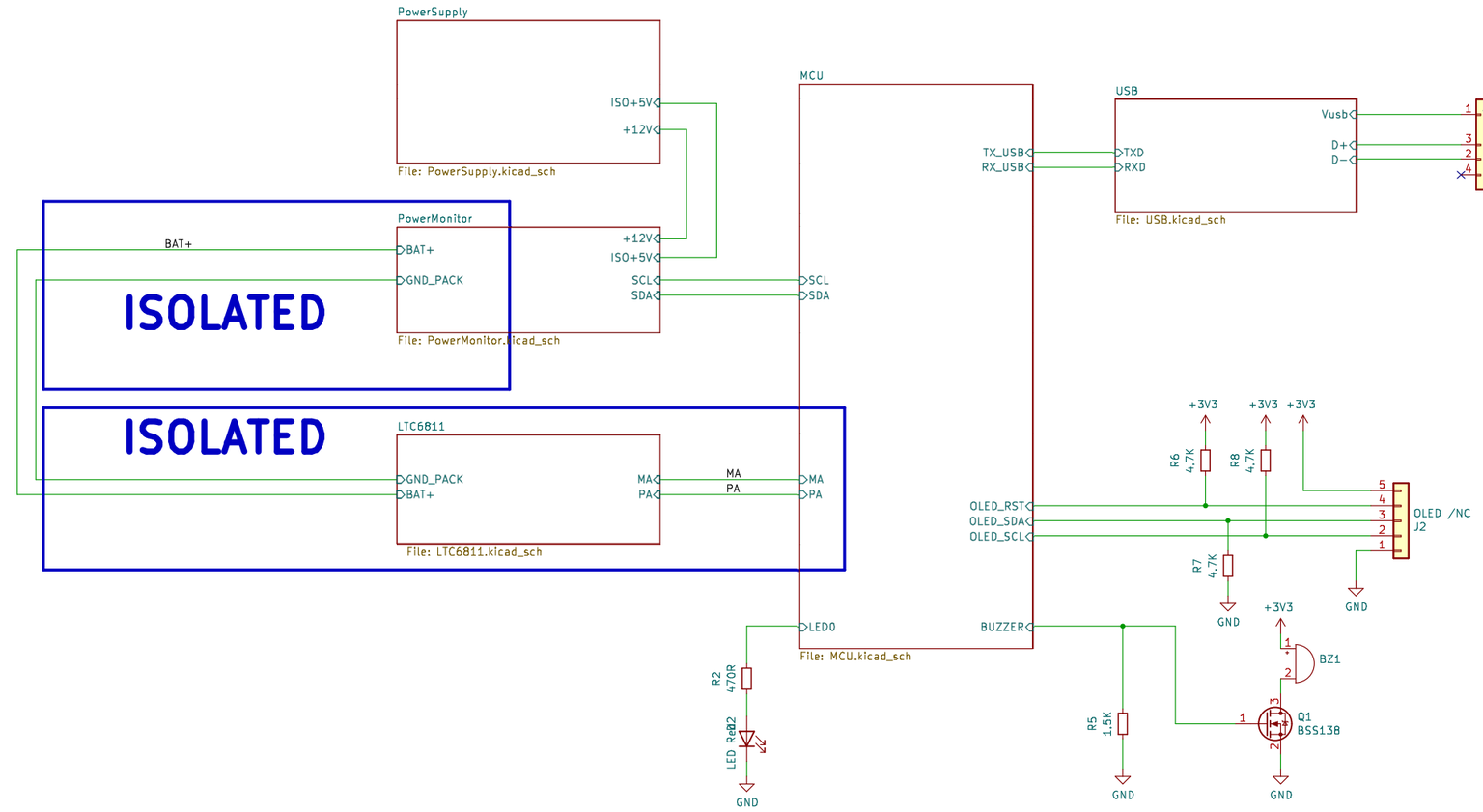

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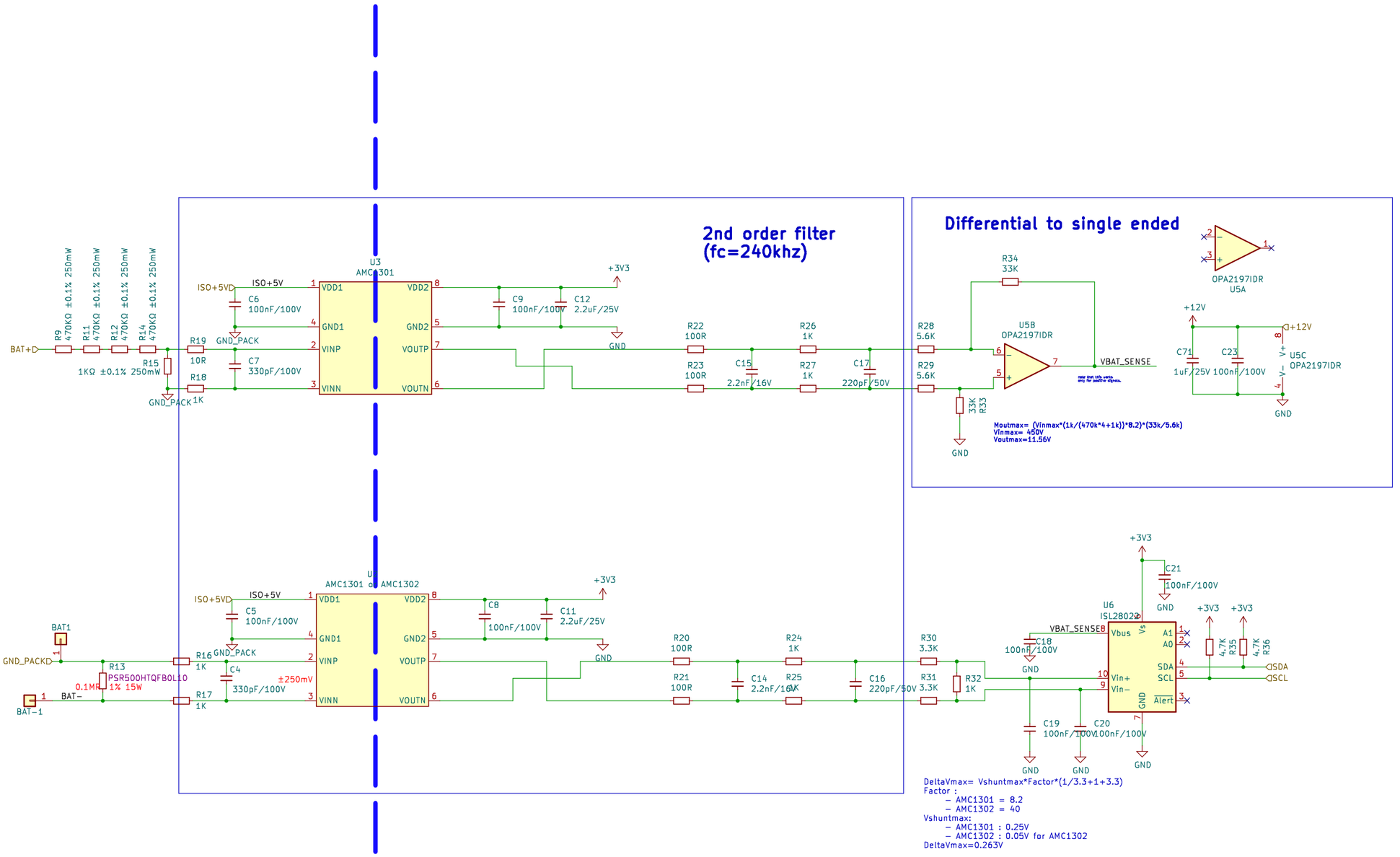
Size: A3	Date: 2023−10−19
KiCad E.D.A. kicad 7.0.10−7.0.10-ubuntu20.04.1	Id: 1/18
	Rev: V0.1



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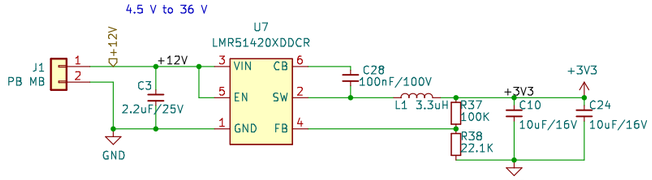

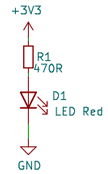

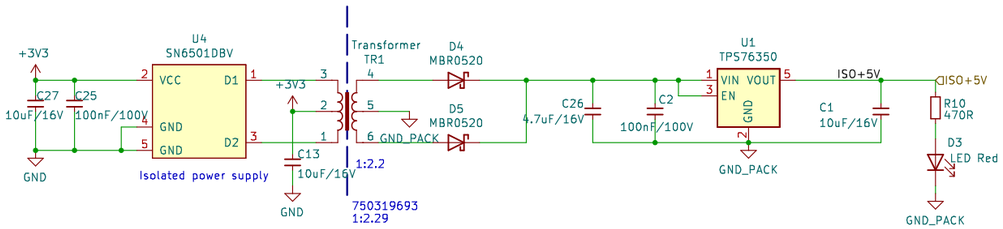

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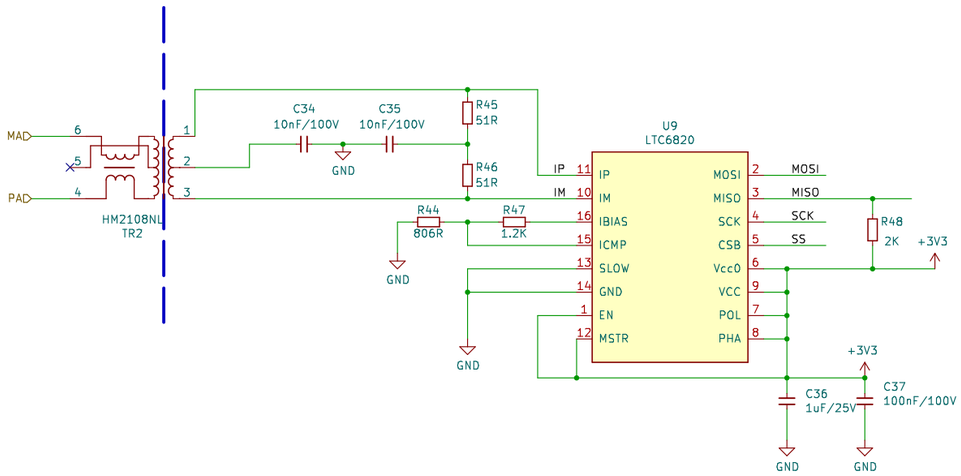
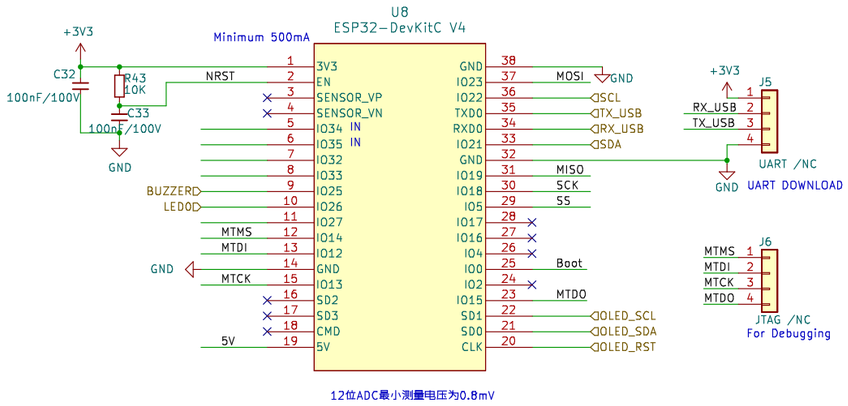
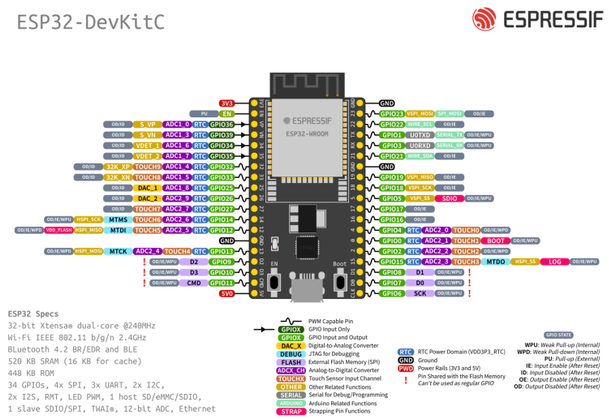
KiCad E.D.A. kicad 7.0.10-7.0.10~ubuntu20.04.1		Id: 3/18

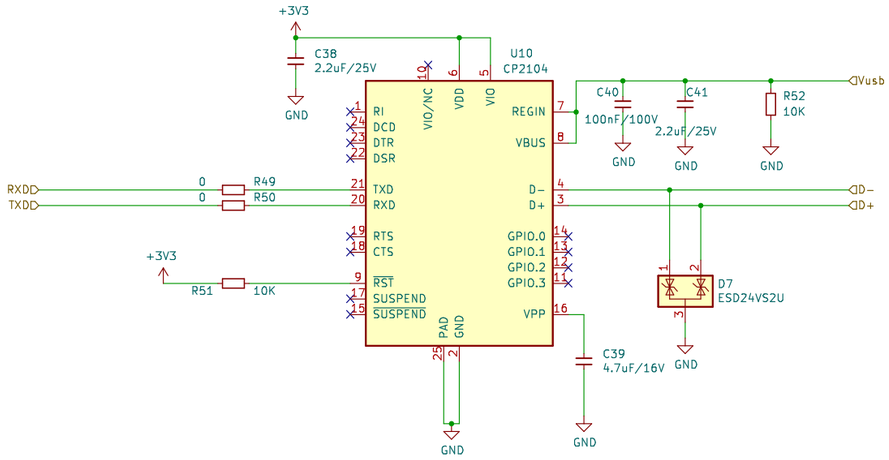

MA
PA
HM2108NL
TR2
C34
10nF/100V
C35
10nF/100V
GND
R45
51R
R46
51R
R44
806R
R47
1.2K
GND
U9
LTC6820
IP
IM
IBIAS
ICMP
SLOW
GND
EN
MSTR
MOSI
MISO
SCK
CSB
Vcc0
VCC
POL
PHA
R48
2K
+3V3
C36
1uF/25V
C37
100nF/100V
GND
GND


U8
ESP32-DevKitC V4
Minimum 500mA
+3V3
C32
100nF/100V
R43
10K
C33
100nF/100V
GND
NRST
BUZZER
LED0
MTMS
MTDI
GND
MTCK
5V
3V3
EN
SENSOR_VP
SENSOR_VN
IO34
IO35
IO32
IO33
IO25
IO26
IO27
IO14
IO12
GND
IO13
SD2
SD3
CMD
5V
GND
IO23
IO22
TXD0
RXD0
IO21
GND
IO19
IO18
IO5
IO17
IO16
IO4
IO0
IO2
IO15
SD1
SD0
CLK
MOSI
SCL
TX_USB
RX_USB
SDA
MISO
SCK
SS
Boot
MTDO
OLED_SCL
OLED_SDA
OLED_RST
12位ADC最小测量电压为0.8mV

+3V3
J5
RX_USB
TX_USB
UART /NC
GND
UART DOWNLOAD

MTMS
MTDI
MTCK
MTDO
J6
JTAG /NC
For Debugging


ESP32-DevKitC
ESPRESSIF
ESP32 Specs
32-bit Xtensa® dual-core @240MHz
Wi-Fi IEEE 802.11 b/g/n 2.4GHz
Bluetooth 4.2 BR/EDR and BLE
520 KB SRAM (16 KB for cache)
448 KB ROM
34 GPIOs, 4x SPI, 3x UART, 2x I2C,
2x I2S, RMT, LED PWM, 1 host SD/eMMC/SDIO,
1 slave SDIO/SPI, TWAI®, 12-bit ADC, Ethernet
PWM Capable Pin
GPIO Input Only
GPIO Input and Output
Digital-to-Analog Converter
JTAG for Debugging
External Flash Memory (SPI)
Analog-to-Digital Converter
Touch Sensor Input Channel
Other Related Functions
Serial for Debug/Programming
Arduino Related Functions
Strapping Pin Functions
RTC Power Domain (VDD3P3_RTC)
Ground
Power Rails (3V3 and 5V)
Pin Shared with the Flash Memory
Can't be used as regular GPIO
GPIO STATE
WPU: Weak Pull-up (Internal)
WPD: Weak Pull-down (Internal)
PU: Pull-up (External)
IE: Input Enable (After Reset)
ID: Input Disabled (After Reset)
OE: Output Enable (After Reset)
OD: Output Disabled (After Reset)



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KiCad E.D.A. kicad 7.0.10−7.0.10~ubuntu20.04.1		Id: 5/18

BAT+

R53 100R

R54 100R

FB1 BLM18PG330SN1D

C48 100nF/100V

GND_PACK

D9 1N4148W

D10 1N4148W

D11 BZT52H-C62

GND_PACK GND_PACK GND_PACK

cell12 cell11 cell10 cell9 cell8 cell7 cell6 cell5 cell4 cell3 cell2 cell1

C+ C- S CM

File: cell.kicad_sch

B7B-XH-A J13

6 C12 F1 MPZ2012S102ATD25

5 C11 F2 MPZ2012S102ATD25

4 C10 F3 MPZ2012S102ATD25

3 C9 F4 MPZ2012S102ATD25

2 C8 F5 MPZ2012S102ATD25

1 C7 F6 MPZ2012S102ATD25

0

B7B-XH-A J14

6 C6 F8 MPZ2012S102ATD25

5 C5 F9 MPZ2012S102ATD25

4 C4 F10 MPZ2012S102ATD25

3 C3 F11 MPZ2012S102ATD25

2 C2 F12 MPZ2012S102ATD25

1 C1 F13 MPZ2012S102ATD25

0 C1_G F14 MPZ2012S102ATD25

GND_PACK

GND_PACK

U12 LTC6811HG-1

In the daisy chain connection R58 is 100 ohms.

1	V+	IPB	48
2	C12	IMB	47
3	S12	ICMP	46
4	C11	IBIAS	45
5	S11	SDO	44
6	C10	SDI	43
7	S10	IPA	42
8	C9	IMA	41
9	S9	ISOMD	40
10	C8	WDT	39
11	S8	DRIVE	38
12	C7	Vreg	37
13	S7	DTEN	36
14	C6	Vref1	35
15	S6	Vref2	34
16	C5	GPIO5	33
17	S5	GPIO4	32
18	C4	V-	31
19	S4	V-**	30
20	C3	GPIO3	29
21	S3	GPIO2	28
22	C2	GPIO1	27
23	S2	C0	26
24	C1	S1	25

IPB R58 100R

IMB

R59 1.2K R60 806R

GND_PACK

IPA

IMA

R55 0

R56 1M

DRIVE

Vreg

R57 0

GND_PACK

Vref2

T5 T4 T3 T2 T1

C46 1uF/25V C47 1uF/25V

GND_PACK

GND_PACK

12V

C49 100nF/100V

GND_PACK

DRIVE

Q2 NSV1C201MZ4

Vreg Vreg

D12 LED Red

R66 1.2K

GND_PACK

C50 1uF/25V C51 1uF/25V C52 1uF/25V

GND_PACK

TR4 HM2108NL

IPB

C22 100pF/100V

GND_PACK

IMB

PB MB J15

IPA

R61 100R

C53 100pF/100V

GND_PACK

IMA

IMA

IPA

HM2108NL TR3

Vreg TestPoint

Vref2 TestPoint

Vref2

100K R62 100K R63 100K R64 100K R65

T5 T4 T3 T2

C54 100nF/100V C55 100nF/100V C56 100nF/100V C57 100nF/100V

TH2 100K TH3 100K TH4 100K TH5 100K NTC

GND_PACK

Vref2

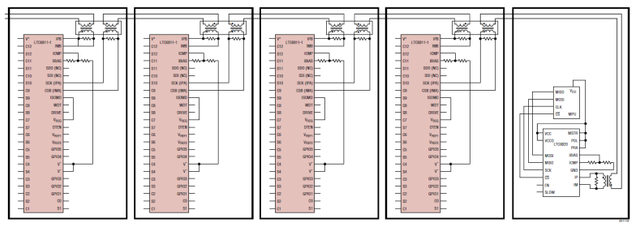
R67 100K

T1

C58 100nF/100V

TH1 100K NTC

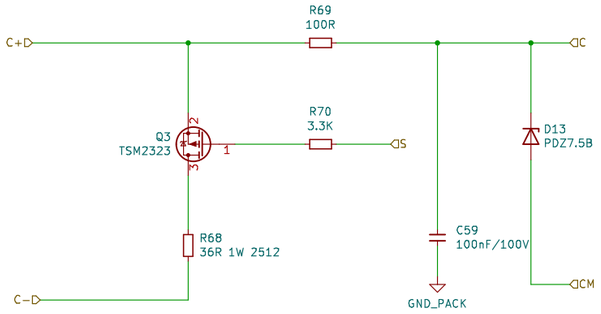
GND_PACK



LTC6811_ESP32

2023-10-17

V0



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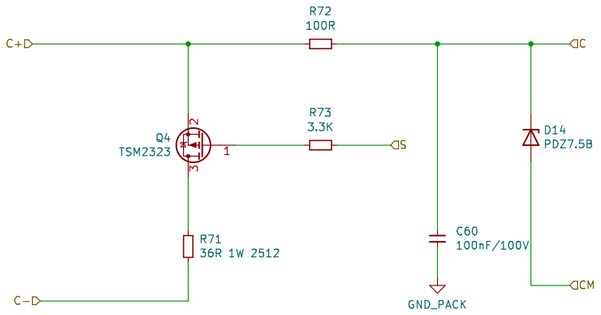

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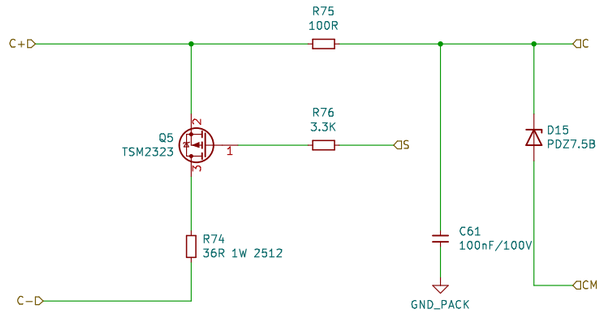

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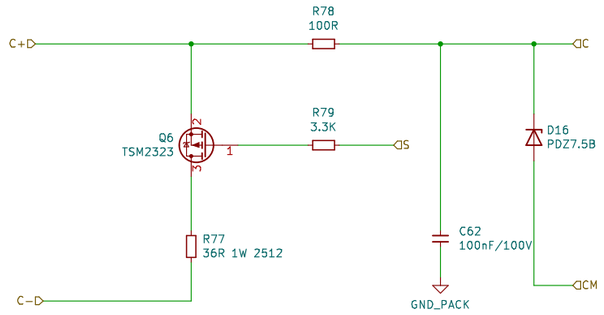

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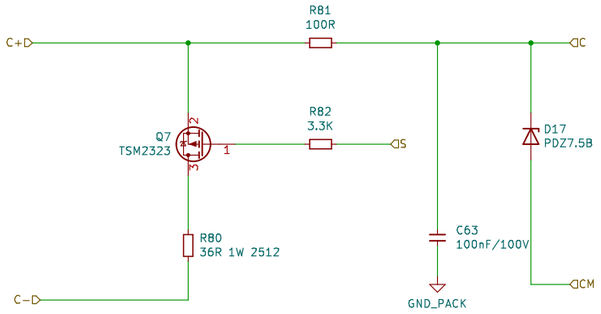

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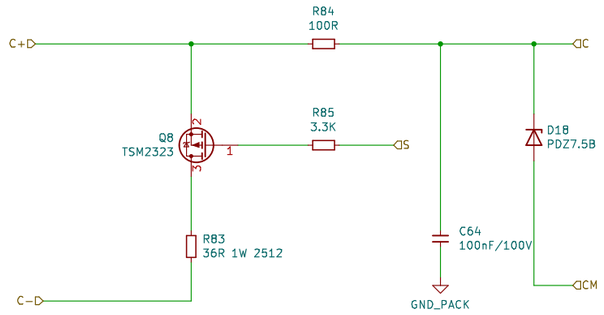

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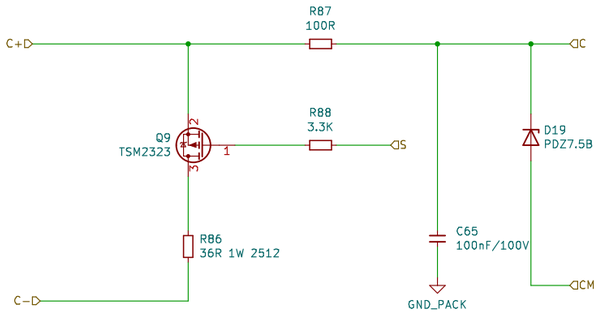

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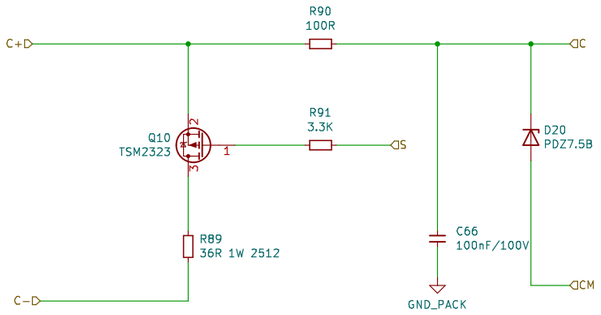

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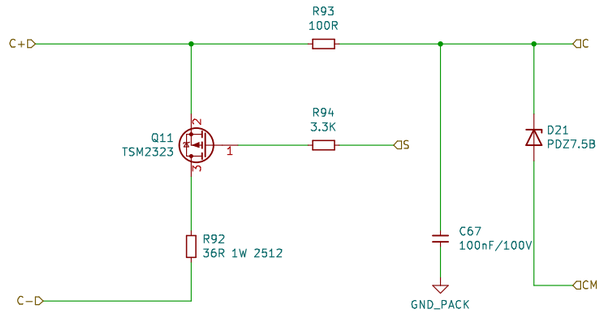

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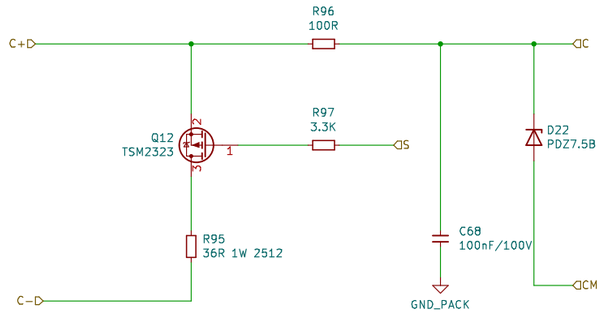

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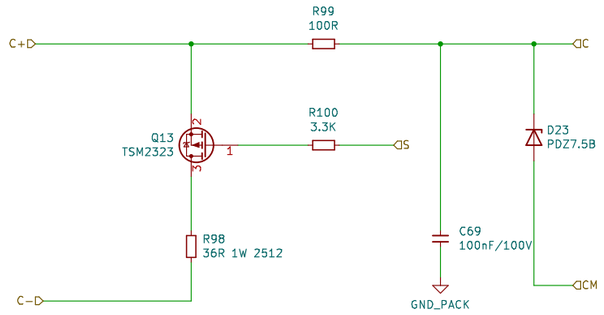

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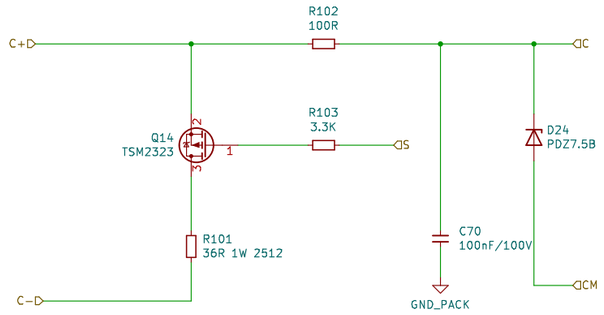

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