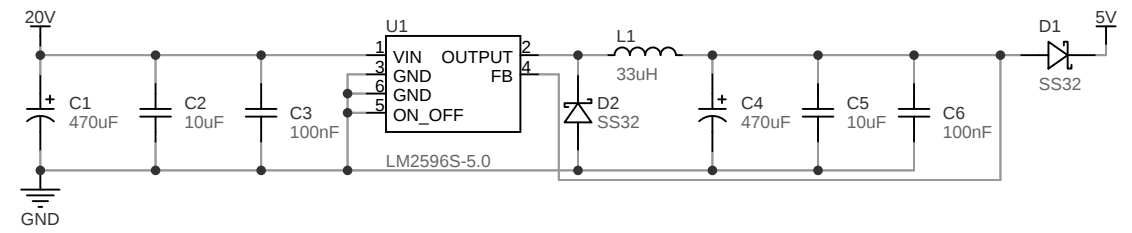
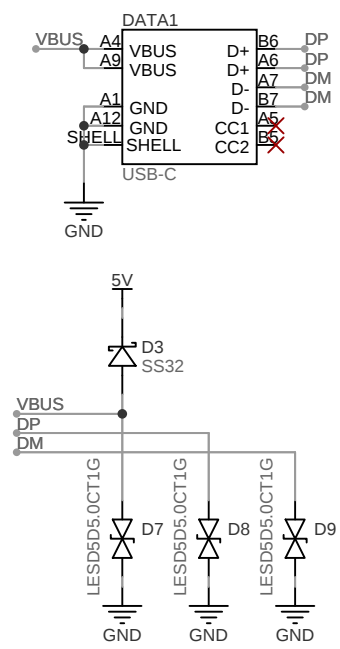


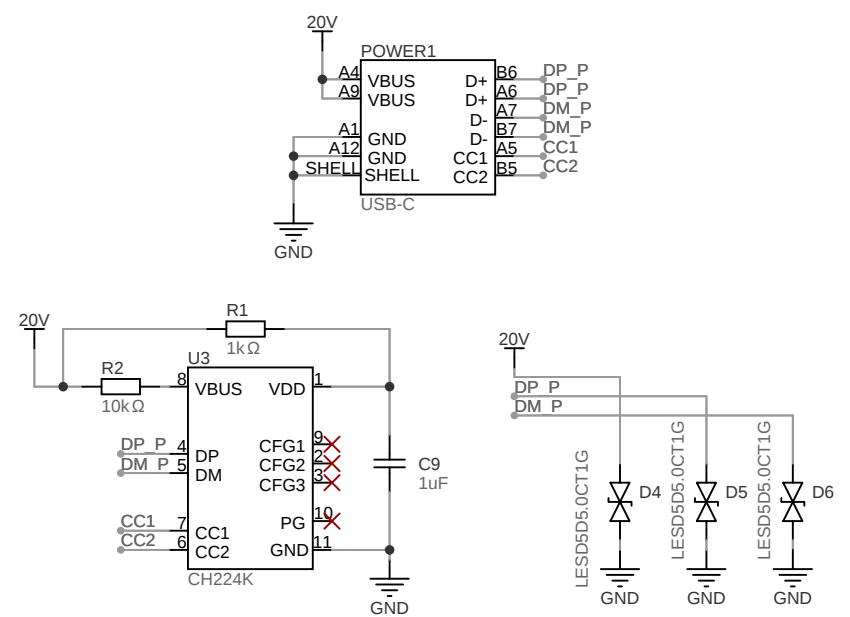
20V-5V Step-down



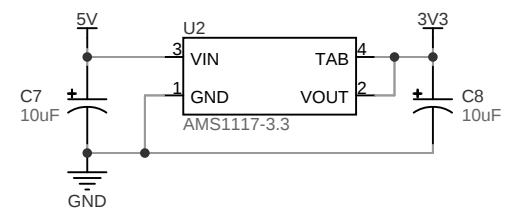
USBC-Data



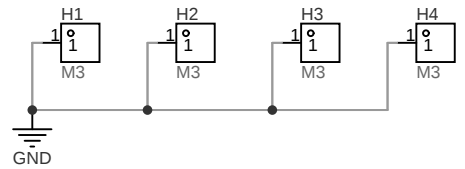
USBC-PD Trigger logic



5V-3.3V Voltage Regulator

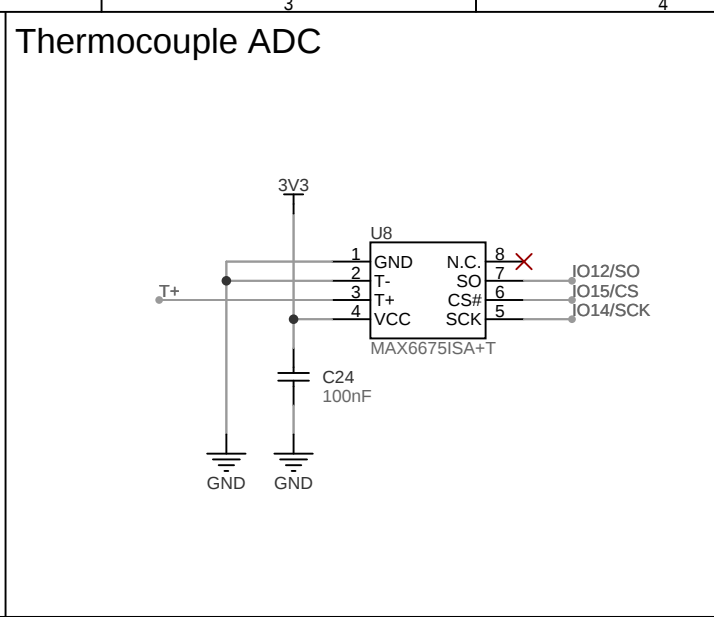


Holes



Schematic	Soldering_iron			Create at	2025-01-17
	Soldering_iron			Update at	2025-02-08
	Soldering_iron			Page	Power
	Soldering_iron			Page 1 Total 3	
EasyEDA			V1.0	A4	EasyEDA.com

Rotary encoder & OLED-Display



GPIO-Expander

The diagram shows a PCF8574DWR (UMW) IC (U7) configured as a GPIO expander. The IC is connected to a 3V3 supply and ground. It has three pull-up resistors (R13, R14, R15) on its input pins (P0/SW, P1/CLK, P2/DT). It has two pull-up resistors (R17, R18) on its output pins (P5/IS, P4/T2). The IC is labeled U7 and PCF8574DWR(UMW).

Pin connections for U7 (PCF8574DWR(UMW)):

- Pin 1 (A0): Connected to ground.
- Pin 2 (A1): Connected to ground.
- Pin 3 (A2): Connected to ground.
- Pin 4 (P0/SW): Connected to ground.
- Pin 5 (P1/CLK): Connected to ground.
- Pin 6 (P2/DT): Connected to ground.
- Pin 7 (P3/T1): Connected to ground.
- Pin 8 (GND): Connected to ground.
- Pin 9 (P4/T2): Connected to ground.
- Pin 10 (P5/IS): Connected to ground.
- Pin 11 (P6): Connected to ground.
- Pin 12 (INT#): Connected to ground.
- Pin 13 (SCL): Connected to ground.
- Pin 14 (SDA): Connected to ground.
- Pin 15 (VCC): Connected to 3V3.
- Pin 16 (A0): Connected to ground.

Resistor values:

- R13: 10kΩ
- R14: 10kΩ
- R15: 10kΩ
- R17: 10kΩ
- R18: 10kΩ

Capacitor values:

- C23: 10μF

Heater control + current sense

The diagram illustrates a heater control and current sensing circuit. The heater is controlled by a BC847 transistor (Q4) driven by a 5V input through a 10kΩ resistor (R23). The transistor's emitter is grounded, and its collector is connected to a 20V supply through a 10kΩ resistor (R21). A MOSFET (Q3, AOD403) is connected in parallel with the transistor to handle higher current. The current sense resistor (R25, 5mΩ) is placed in the common path between the transistor and MOSFET. The voltage drop across R25 is amplified by a COSINA180A3 op-amp (U10) configured as a differential amplifier. The op-amp's non-inverting input (pin 3) is connected to one end of R25, and its inverting input (pin 4) is connected to the other end. The op-amp is powered by a 3V3 supply (pin 5) and ground (pin 2). The output (pin 1) provides the current sense signal, labeled IO13/CURRENT.

Voltage Control

The diagram illustrates a voltage control circuit. It features a voltage divider consisting of two resistors, R22 and R24, connected in series. The top terminal of R22 is labeled HEATER+. The bottom terminal of R24 is connected to GND. The junction between R22 and R24 is labeled JO0/VOLTAGE. The resistors are labeled R22 10kΩ and R24 1kΩ.

Soldering iron connector

The diagram shows a three-pin connector labeled CN1, identified as DB301V-5.0-3P-BK-S. The pins are numbered 1, 2, and 3. Pin 1 is connected to a terminal labeled HEATER+. Pin 2 is connected to a terminal labeled T+. Pin 3 is connected to a common ground symbol labeled GND.

Schematic	Soldering_iron			Create at	2025-02-04
				Update at	2025-02-08
Board	Soldering_iron			Page	Controll
Drawn		Soldering_iron			
Reviewed					
		Version	Size	Page 3 Total 3	
		V1.0	A4	EasyEDA.com	