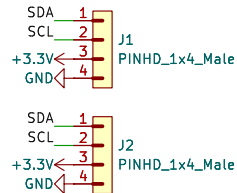
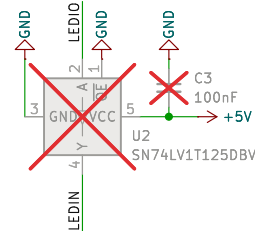
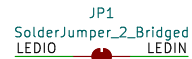


MCU (XIAO RP2040)



I<sup>2</sup>C Headers



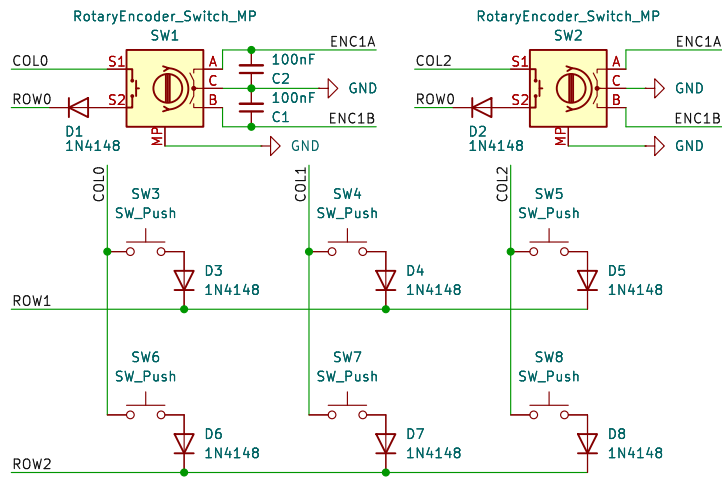
U2 and C3 are used to boost the LED DIN signal to 5V, which may be required with some LEDs. They should not be populated by default as most WS2812B style LEDs work on 3.3V logic.

If you decide to populate U2 and C3 YOU MUST CUT JP1, as JP1 bridges D10 directly to the first LED DIN pad.

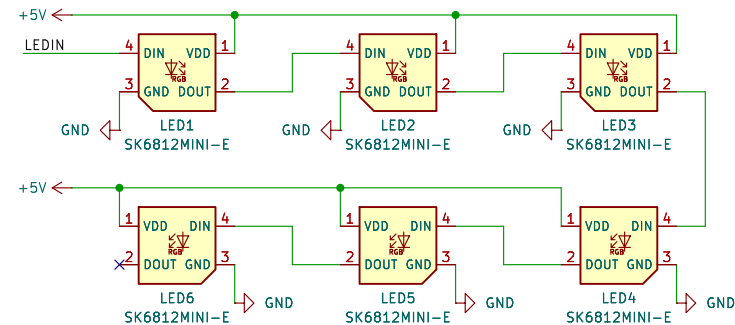
U2 can be any SOT-23 5 Pin 5V Logic Level Shifter such as:  
- SN74AHC1G125 (Fixed 5V Logic Level Shifter)  
- SN74LV1T125 (1.8 to 5V Logic Level Shifter)

**WARNING:**  
DO NOT POPULATE U2 AND C3 WITHOUT CUTTING THE JP1 JUMPER FIRST. FAILURE TO DO SO MAY FRY YOUR XIAO RP2040.

LED Logic Level



Encoders & Switches



LED Matrix

<https://lambdakb.dev/devices/lk7d>

**LambdaKB.dev**

Sheet: /

File: lk7d-pcb.kicad\_sch

**Title: LK7D**

Size: A4 Date: 2025-04-08

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**Rev: v1.01**

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