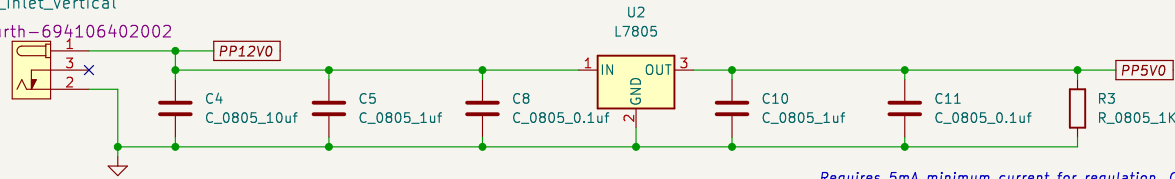


# Analog Clock

question: is this a 12v input?  
J1

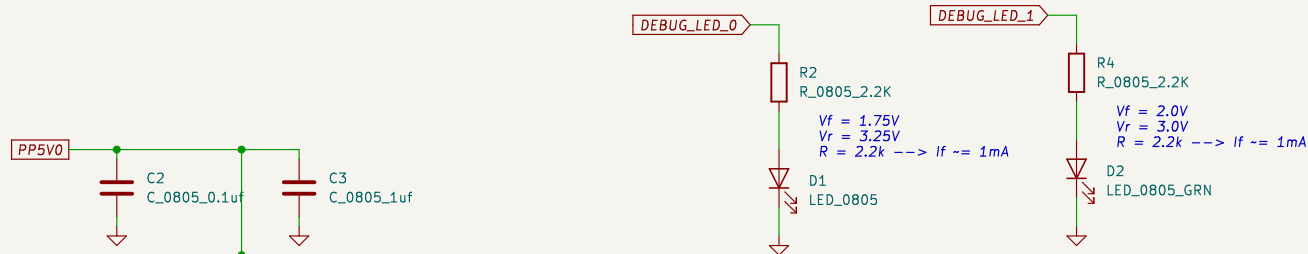
Power\_inlet\_vertical

footprints:Wurth-694106402002



Power

Requires 5mA minimum current for regulation. Can replace with an LED.



CHECK: Make sure to add TPs to all of the disconnected pins!

Testpoints

File: testpoints\_sheet.kicad\_sch

Buttons, Pullups, and Debug

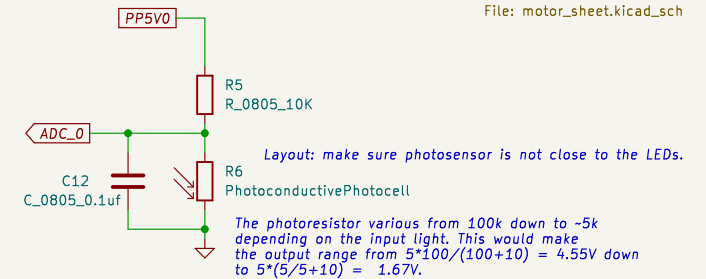
File: buttons\_pullups\_debug\_sheet.kicad\_sch

Display and LED Matrix

File: display\_led\_matrix\_sheet.kicad\_sch

motor

File: motor\_sheet.kicad\_sch



Layout: make sure photosensor is not close to the LEDs.

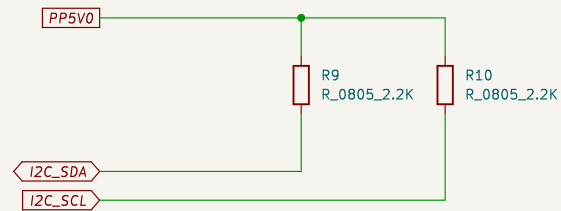
The photoresistor varies from 100k down to ~5k depending on the input light. This would make the output range from  $5 \times 100 / (100 + 10) = 4.55V$  down to  $5 \times (5 / 5 + 10) = 1.67V$ .

Lightsense

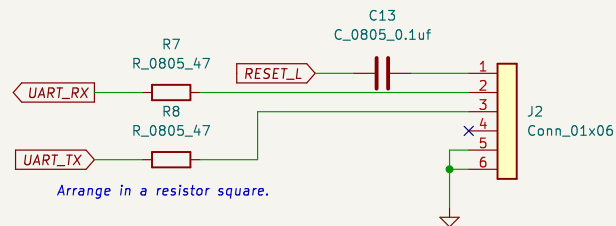
MCU

RTC

# Buttons, Pullups, and Debug

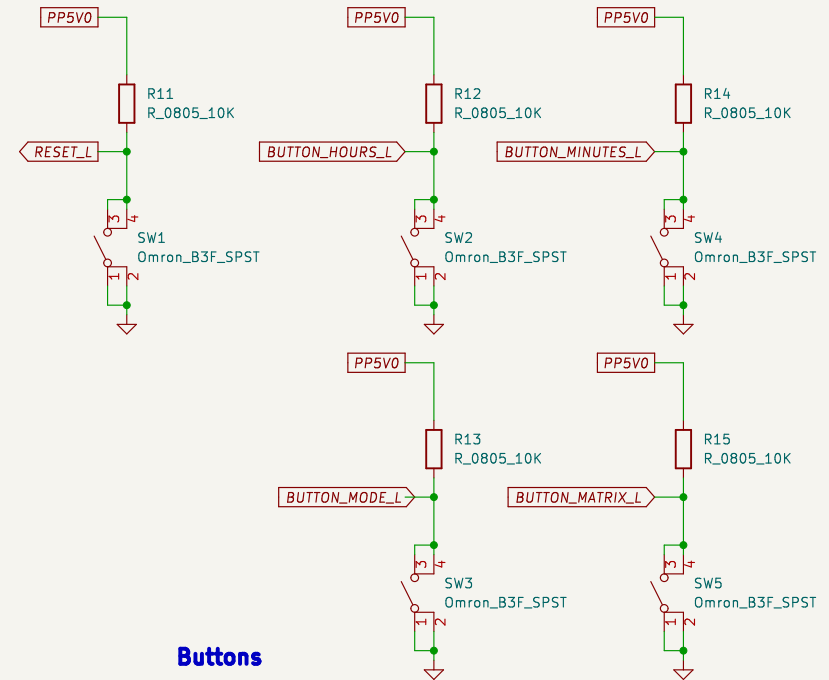


**Pullups**



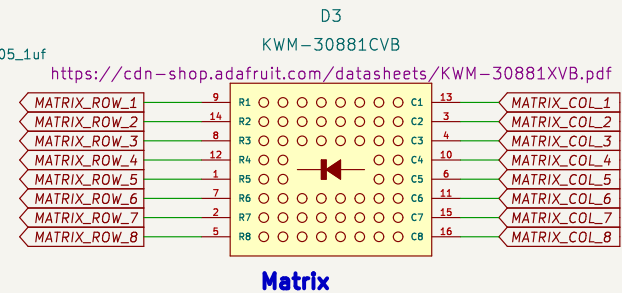
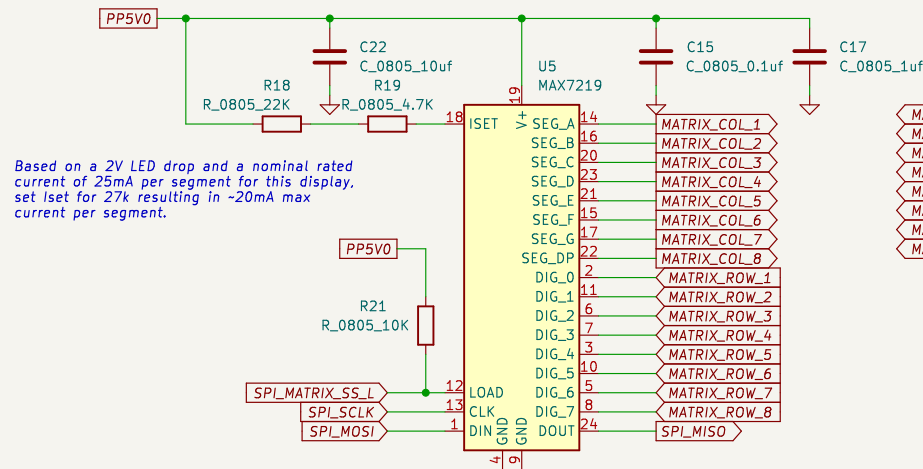
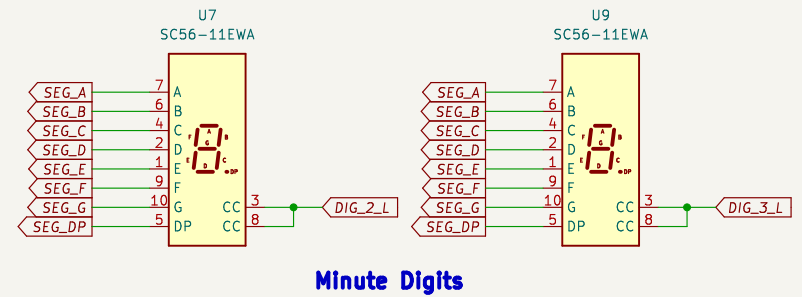
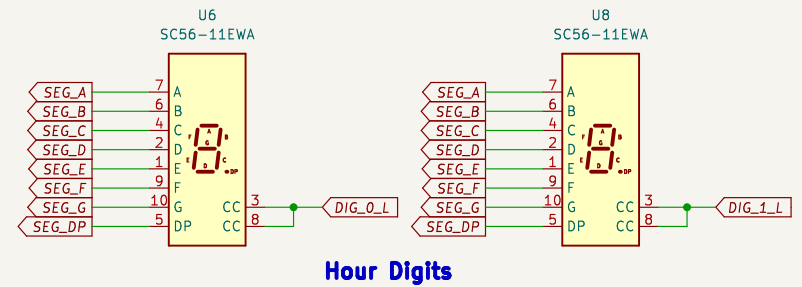
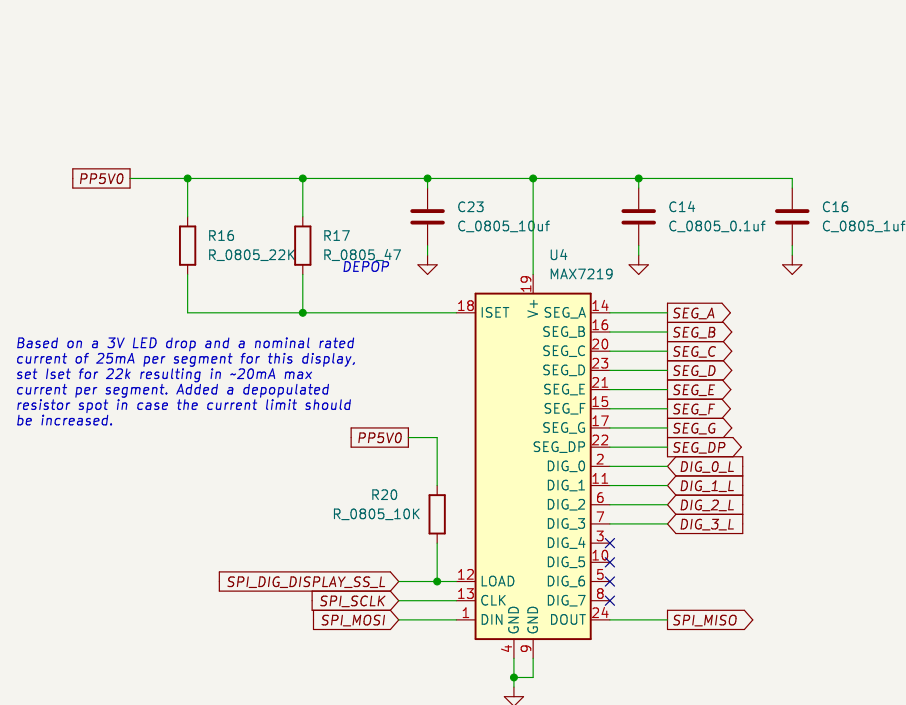
**Debug**

CHECK: Why does the reset need to be biased? How exactly will we be programming the arduino??



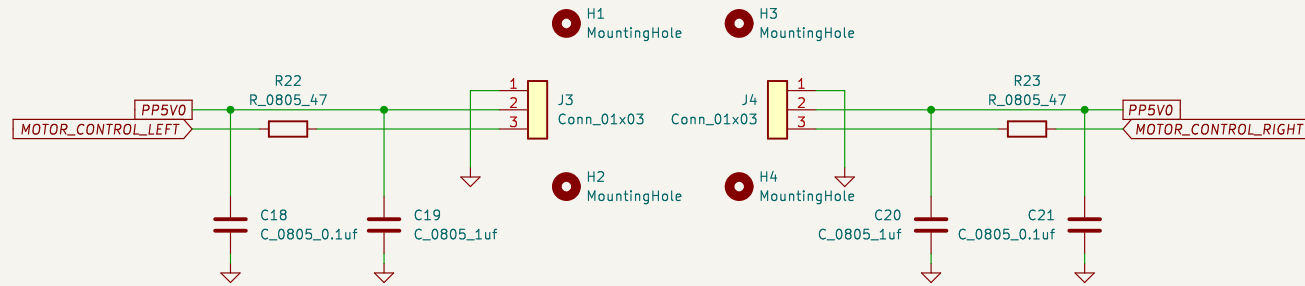
**Buttons**

# Display and LED Matrix



# Motor

Layout: Make sure to put mounting holes in correct position under 3 pin connectors.



Layout: Make sure to indicate connector polarity.

Layout: Make sure to indicate connector polarity.

# Testpoints

