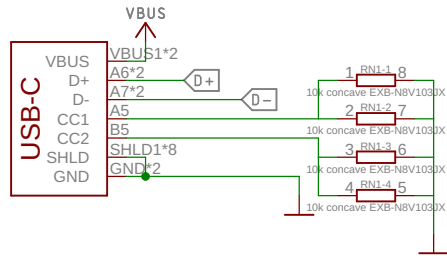


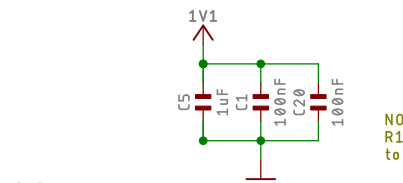
# Picosystem (PIM559)

## USB Connector

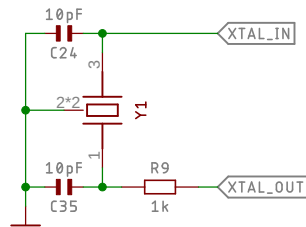
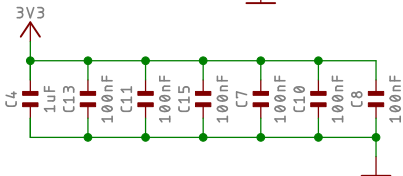
Configure in device mode with both CC pins pulled low via 5.1K resistors.



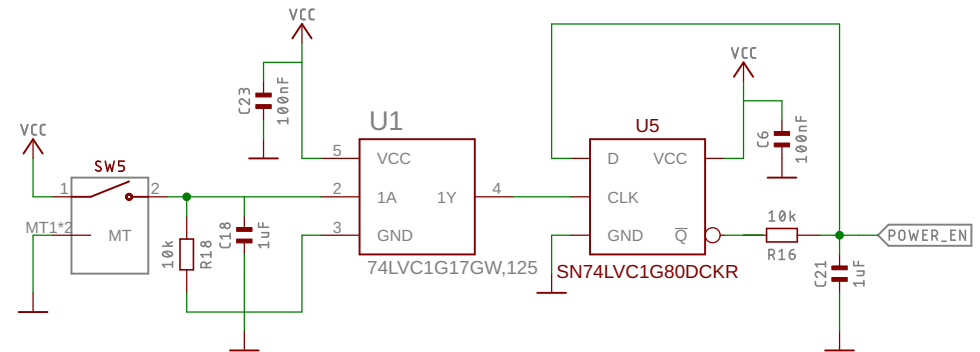
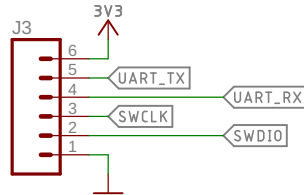
## Power Rail Decoupling



NOTE:  
R1/R2 should be placed as close to RP2040 as possible.

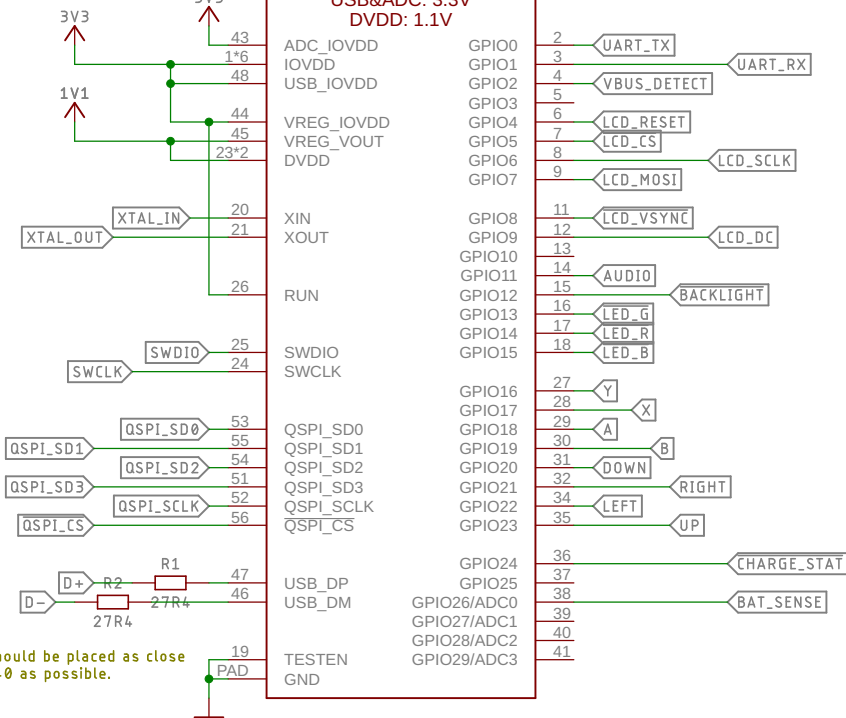


## Debug Header



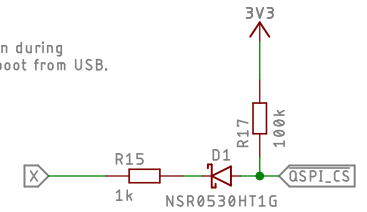
## MCU1

**RP2040**  
IOVDD&VREG: 1.8-3.3V  
USB&ADC: 3.3V  
DVDD: 1.1V

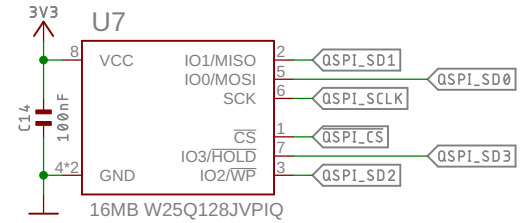


## Force USB Boot

If user holds down X action button during power up then bypass flash and boot from USB.



## QSPI Flash



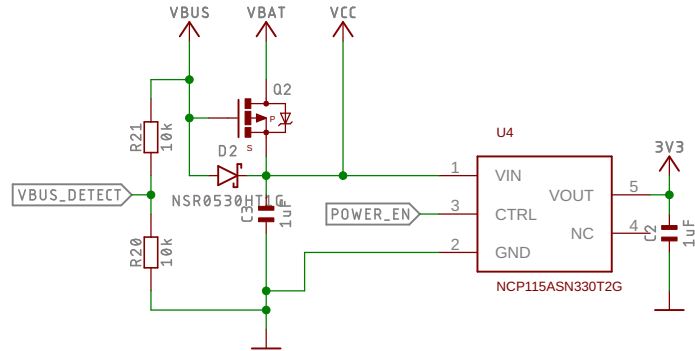
## Power Switch

Pressing the switch toggles the 3V3 rail on/off.

# Picosystem (PIM559)

## Power Supply

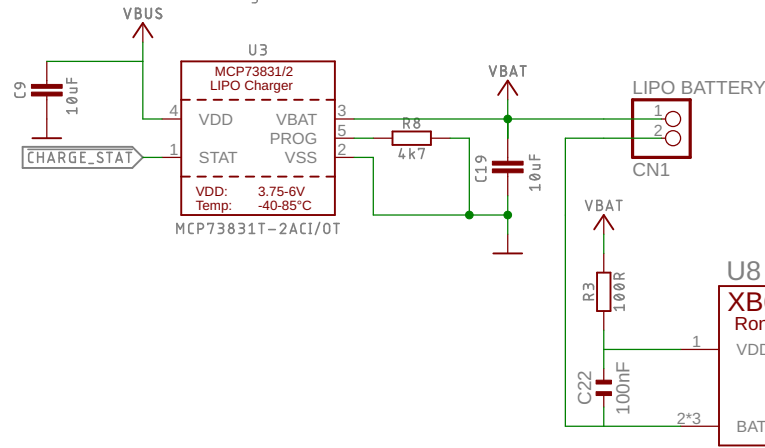
Use VBUS when available otherwise VBAT for supply.



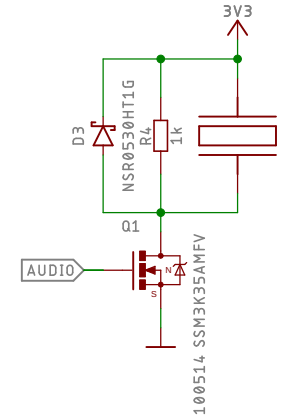
NSR0530HT1G reverse current at 85C and 5V is about 50uA typ. 20k pull-down pulls the vbus\_detect to about 1V with 50uA current.

## LiPo Charger and battery protection IC

4.7k on PROG sets charge current limit to ~220mA.

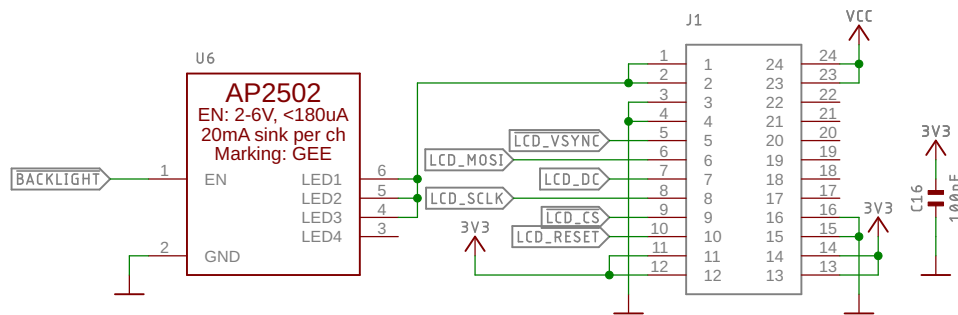


## Piezo

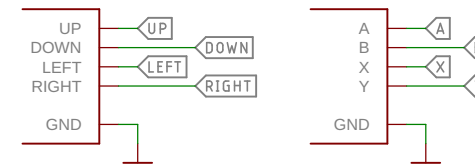


## LCD and Backlight

Display backlight is 3 white LEDs in parallel (FV 3.2 – 20mA). Each channel of the AP2502 constant current driver can supply 20mA so we tie them together to provide the necessary current.

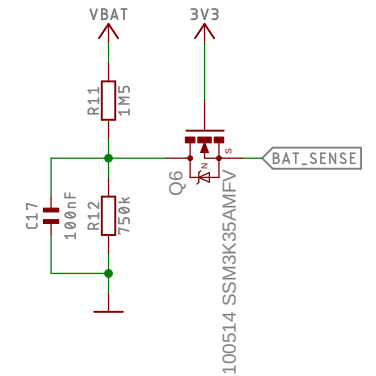


## Controls

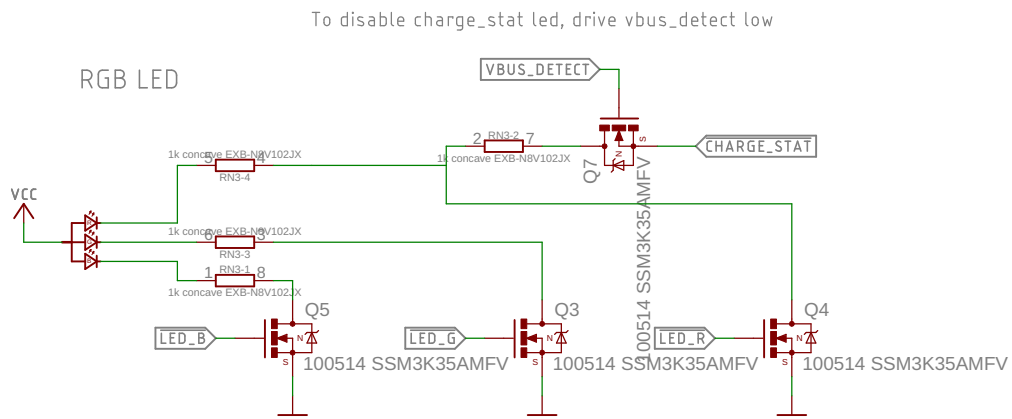


## Battery Voltage Sense

Max BAT\_SENSE voltage:  $4.2/3 = 1.4V$



# Picosystem (PIM559)



## Pullup resistors

