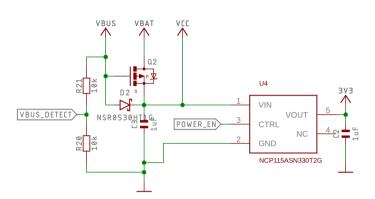
Picosystem (PIM559) USB Connector RP2040 Force USB Boot IOVDD&VREG: 1.8-3.3V Configure in device mode with both CC pins If user holds down X action button during USB&ADC: 3.3V power up then bypass flash and boot from USB. pulled low via 5.1K resistors. 3 V 3 DVDD: 1.1V ADC IOVDD UART_TX GPIO1 UART_RX IOVDD USB IOVDD GPIO2 VBUS_DETECT VBUS 111 GPIO3 VREG IOVDD GPIO4 LCD_RESET 45 VREG VOUT GPI05 LCD_CS 1k NSR0530HT1G D+ DVDD GPIO6 LCD_SCLK \circ LCD_MOSI O-CC1 CC2 SHLD D-GPIO7 QSPI Flash XTAL_IN GPI08 LCD_VSYNC XIN 21 XTAL_OUT XOUT GPI09 LCD_DC GND GPIO10 3٧3 U7 GPIO11 AUDIO RUN GPIO12 BACKLIGHT VCC GPIO13 IO1/MISO QSPI_SD1 IO0/MOSI QSPI_SD0 GPIO14 SWDIO) SWDIO GPIO15 SCK SWCLK SWCLK GPIO16 CS QSPI_CS GPIO17 103/HOLD QSPI_SD3 QSPI_SD2 QSPI_SD0 QSPI_SD0 GPIO18 GND IO2/WP QSPI_SD1 OSPI SD1 GPIO19 16MB W25Q128JVPIQ QSPI SD2 GPIO20 DOWN QSPI_SD2 Power Rail Decoupling QSPI_SD3 QSPI_SD3 GPIO21 RIGHT QSPI_SCLK OSPI SCLK GPIO22 QSPI_CS GPIO23 1V1 CHARGE_STAT GPIO24 Power Switch GPIO25 USB DP USB_DM GPIO26/ADC0 BAT_SENSE 39 Pressing the switch GPIO27/ADC1 toggles the 3V3 rail on/off. 40 GPIO28/ADC2 41 R1/R2 should be placed as close TESTEN GPIO29/ADC3 to RP2040 as possible. GND 3V3 Debug Header UART_TX U1 U5 UART_RX 3 V 3 XTAL_IN SWCLK VCC D VCC SW5 SWDIO C24 CLK 1A 1Y 10k POWER_EN GND GND Q R16 74LVC1G17GW,125 SN74LVC1G80DCKR 10 n F XTAL_OUT C35 1k PRODUCT DATE GENERATED SHEET 05/10/2021 14:06 1/3 picosystem

Picosystem (PIM559)

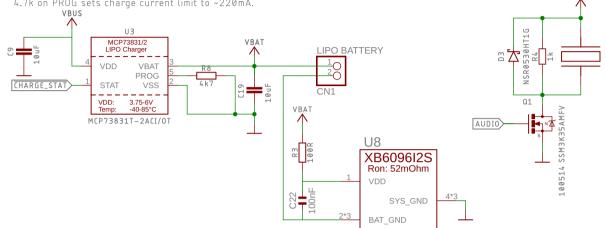
Power Supply

Use VBUS when available otherwise VBAT for supply.



LiPo Charger and battery protection IC

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

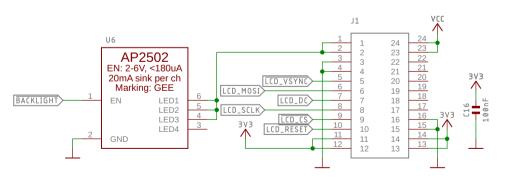


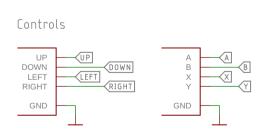
Piezo

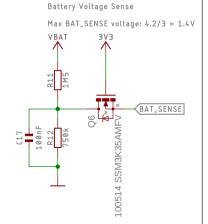
NSR0530HT1G reverse current at 85C and 5V is about 50uA typ. 20k pull-down pulls the vbus detect to about 1V with 50uA current.

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.







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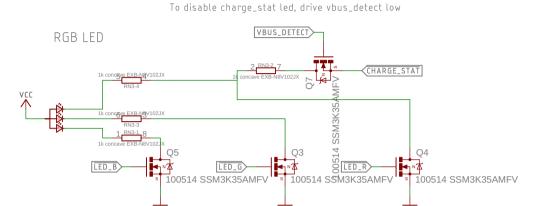
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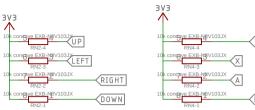
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Pullup resistors







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