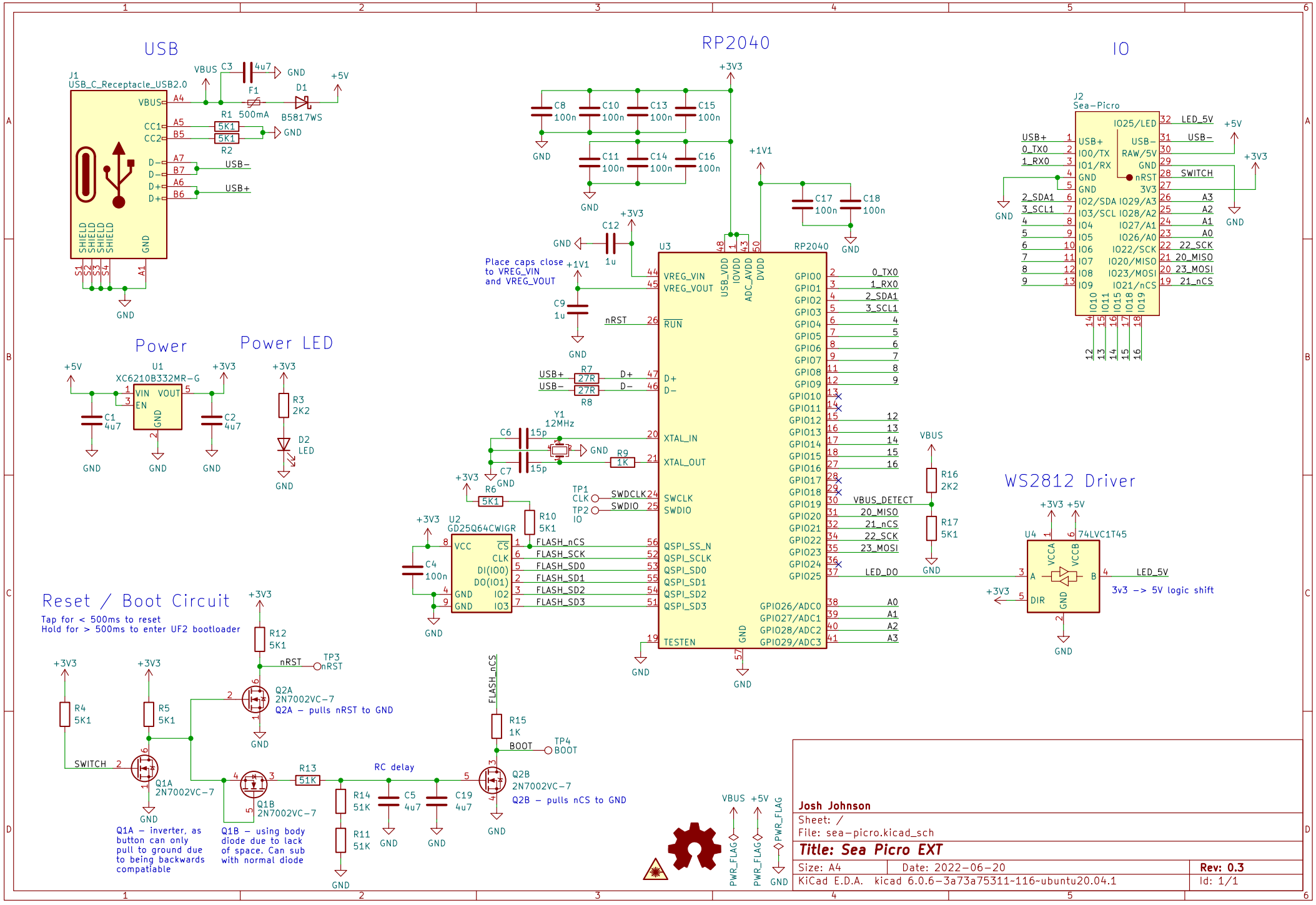
USB
J1
USB_C_Receptacle_USB2.0
VBUS
C3
4u7
GND
+5V
F1
500mA
D1
B5817WS
R1
5K1
R2
5K1
CC1
CC2
A4
A5
B5
A7
B7
A6
B6
USB-
USB+
SHIELD
S1
S2
S3
S4
A1
Power
U1
XC6210B332MR-G
VIN
VOUT
EN
C1
4u7
C2
4u7
+3V3
Power LED
R3
2K2
D2
LED
RP2040
U3
RP2040
VREG_VIN
VREG_VOUT
USB_VDD
IOVDD
ADC_AVDD
DVDD
RUN
nRST
D+
D-
XTAL_IN
XTAL_OUT
SWCLK
SWDIO
QSPI_SS_N
QSPI_SCLK
QSPI_SD0
QSPI_SD1
QSPI_SD2
QSPI_SD3
TESTEN
GPIO0
GPIO1
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
GPIO7
GPIO8
GPIO9
GPIO10
GPIO11
GPIO12
GPIO13
GPIO14
GPIO15
GPIO16
GPIO17
GPIO18
GPIO19
GPIO20
GPIO21
GPIO22
GPIO23
GPIO24
GPIO25
GPIO26/ADC0
GPIO27/ADC1
GPIO28/ADC2
GPIO29/ADC3
C8
100n
C10
100n
C13
100n
C15
100n
C11
100n
C14
100n
C16
100n
C17
100n
C18
100n
C12
1u
C9
1u
Place caps close to VREG_VIN and VREG_VOUT
+1V1
R7
27R
R8
27R
Y1
12MHz
C6
15p
C7
15p
R9
1K
TP1
CLK
TP2
IO
SWDCLK
SWDIO
R6
5K1
R10
5K1
U2
GD25Q64CWIGR
VCC
CS
CLK
DI(IO0)
DO(IO1)
IO2
IO3
C4
100n
FLASH_nCS
FLASH_SCK
FLASH_SD0
FLASH_SD1
FLASH_SD2
FLASH_SD3
0_TX0
1_RX0
2_SDA1
3_SCL1
VBUS_DETECT
20_MISO
21_nCS
22_SCK
23_MOSI
LED_DO
A0
A1
A2
A3
R16
2K2
R17
5K1
IO
J2
Sea-Picro
IO25/LED
USB+
USB-
IO0/TX
IO1/RX
RAW/5V
GND
nRST
3V3
IO2/SDA
IO3/SCL
IO4
IO5
IO6
IO7
IO8
IO9
IO29/A3
IO28/A2
IO27/A1
IO26/A0
IO22/SCK
IO20/MISO
IO23/MOSI
IO21/nCS
IO10
IO11
IO15
IO18
IO19
LED_5V
SWITCH
WS2812 Driver
U4
74LVC1T45
VCCA
VCCB
A
B
DIR
3v3 -> 5V logic shift
Reset / Boot Circuit
Tap for < 500ms to reset
Hold for > 500ms to enter UF2 bootloader
R12
5K1
nRST
TP3
nRST
Q2A
2N7002VC-7
Q2A - pulls nRST to GND
R4
5K1
R5
5K1
SWITCH
Q1A
2N7002VC-7
Q1B
2N7002VC-7
R13
51K
RC delay
R14
51K
R11
51K
C5
4u7
C19
4u7
FLASH_nCS
R15
1K
BOOT
TP4
BOOT
Q2B
2N7002VC-7
Q2B - pulls nCS to GND
Q1A - inverter, as button can only pull to ground due to being backwards compatiable
Q1B - using body diode due to lack of space. Can sub with normal diode
PWR_FLAG
Josh Johnson
Sheet: /
File: sea-picro.kicad_sch
Title: Sea Picro EXT
Size: A4
Date: 2022-06-20
Rev: 0.3
KiCad E.D.A. kicad 6.0.6-3a73a75311~116~ubuntu20.04.1
Id: 1/1