RP2040 Clock Base Module

#	PAGE
01	COVER SHEET
02	RP2040 & USB
03	CONNS & PERIPHERALS

#	REV
1.0	INITIAL RELEASE

FLAT SCHEMATIC SHEETS

RP2040 & USB

RP2040 & USB

File: PAGE2.kicad_sch

CONNS & PERIPHERALS

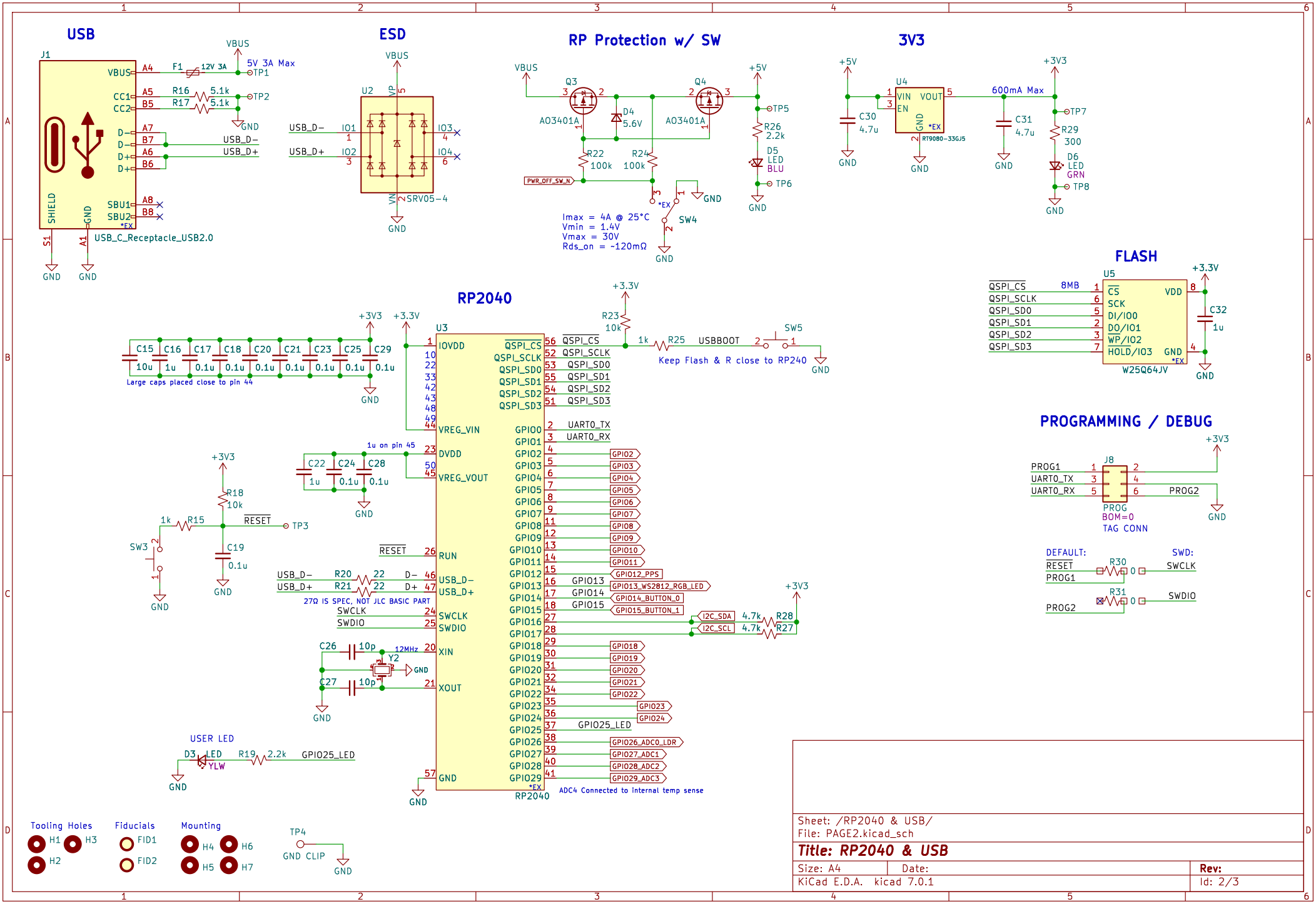
CONNS & PERIPHERALS

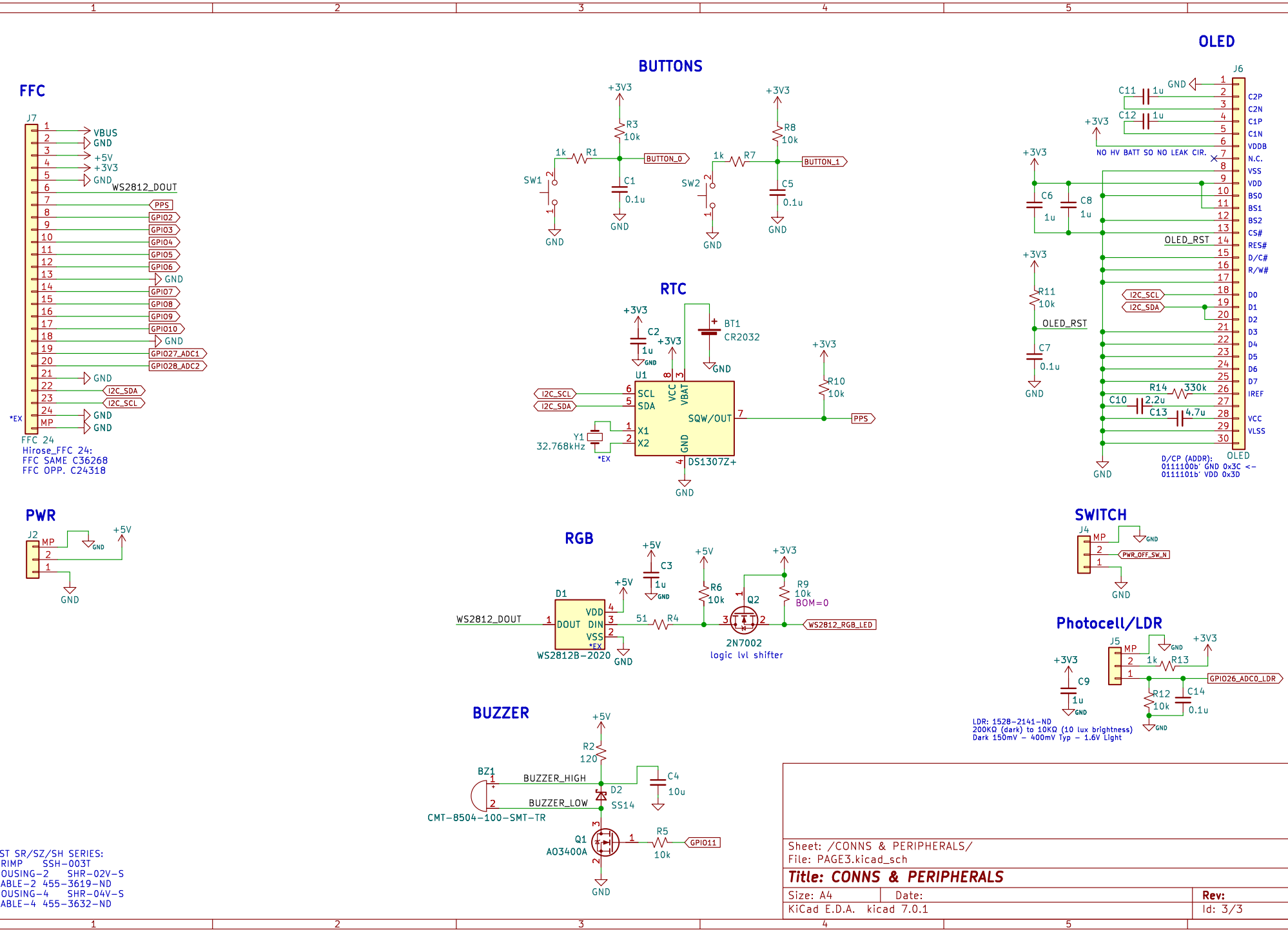
File: PAGE3.kicad_sch

Sheet: /
File: clock_pcb.kicad_sch

Title: Cover Sheet

Size: A4	Date: 2023-06-18	**Rev: 1.0**
KiCad E.D.A. kicad 7.0.1		Id: 1/3


USB
ESD
RP Protection w/ SW
3V3
FLASH
RP2040
PROGRAMMING / DEBUG
USB_C_Receptacle_USB2.0
SRV05-4
AO3401A
RT9080-33GJ5
W25Q64JV
Large caps placed close to pin 44
27Ω IS SPEC, NOT JLC BASIC PART
ADC4 Connected to internal temp sense
Keep Flash & R close to RP240
Imax = 4A @ 25°C
Vmin = 1.4V
Vmax = 30V
Rds_on = ~120mΩ
USER LED
Tooling Holes
Fiducials
Mounting
Sheet: /RP2040 & USB/
File: PAGE2.kicad_sch
Title: RP2040 & USB
Size: A4
Date:
Rev:
KiCad E.D.A. kicad 7.0.1
Id: 2/3


FFC
J7
VBUS
GND
+5V
+3V3
GND
WS2812_DOUT
PPS
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
GND
GPIO7
GPIO8
GPIO9
GPIO10
GND
GPIO27_ADC1
GPIO28_ADC2
GND
I2C_SDA
I2C_SCL
*EX
GND
MP
GND
FFC 24
Hirose_FFC 24:
FFC SAME C36268
FFC OPP. C24318
BUTTONS
+3V3
R3
10k
1k
R1
BUTTON_0
SW1
C1
0.1u
GND
R8
10k
1k
R7
BUTTON_1
SW2
C5
0.1u
RTC
+3V3
C2
1u
BT1
CR2032
U1
I2C_SCL
I2C_SDA
SCL
SDA
VCC
VBAT
SQW/OUT
X1
X2
GND
Y1
32.768kHz
*EX
DS1307Z+
R10
10k
PPS
OLED
J6
C11
1u
C12
1u
NO HV BATT SO NO LEAK CIR.
C2P
C2N
C1P
C1N
VDDB
N.C.
VSS
VDD
BS0
BS1
BS2
CS#
RES#
D/C#
R/W#
D0
D1
D2
D3
D4
D5
D6
D7
IREF
VCC
VLSS
OLED_RST
C6
1u
C8
1u
R11
10k
C7
0.1u
R14
330k
C10
2.2u
C13
4.7u
D/CP (ADDR):
0111100b' GND 0x3C <-
0111101b' VDD 0x3D
PWR
J2
MP
GND
+5V
GND
RGB
D1
WS2812_DOUT
DOUT
VDD
DIN
VSS
*EX
WS2812B-2020
C3
1u
R4
51
R6
10k
Q2
2N7002
logic lvl shifter
R9
10k
BOM=0
WS2812_RGB_LED
SWITCH
J4
MP
PWR_OFF_SW_N
GND
Photocell/LDR
J5
C9
1u
R13
1k
R12
10k
C14
0.1u
GPIO26_ADC0_LDR
LDR: 1528-2141-ND
200KΩ (dark) to 10KΩ (10 lux brightness)
Dark 150mV - 400mV Typ - 1.6V Light
BUZZER
R2
120
BZ1
BUZZER_HIGH
BUZZER_LOW
CMT-8504-100-SMT-TR
C4
10u
D2
SS14
Q1
AO3400A
R5
10k
GPIO11
JST SR/SZ/SH SERIES:
CRIMP SSH-003T
HOUSING-2 SHR-02V-S
CABLE-2 455-3619-ND
HOUSING-4 SHR-04V-S
CABLE-4 455-3632-ND
Sheet: /CONNS & PERIPHERALS/
File: PAGE3.kicad_sch
Title: CONNS & PERIPHERALS
Size: A4
Date:
Rev:
KiCad E.D.A. kicad 7.0.1
Id: 3/3