

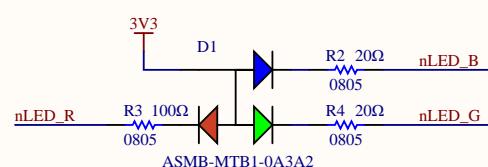
1

2

3

4

Test LEDs

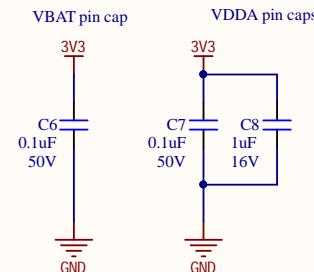
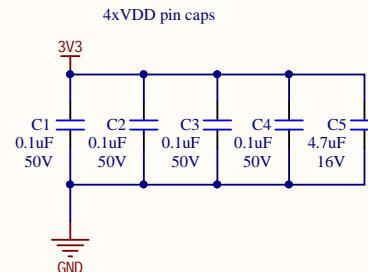


Current Calculations

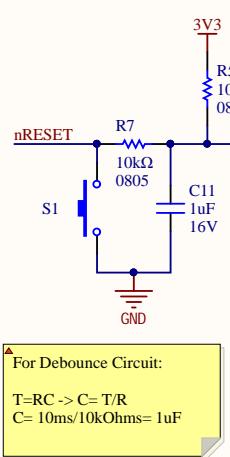
Green LED voltage drop: 2.2V
 $I = (3.3-2.2V)/100 = 11mA$

RGB LED voltage drops:
 - Red: 2.1V; $I = (3.3-2.1V)/100 = 12mA$
 - Blue: 3.1V; $I = (3.3-3.1V)/20 = 10mA$
 - Green: 3.1V; $I = (3.3-3.1V)/20 = 10mA$

Decoupling Caps

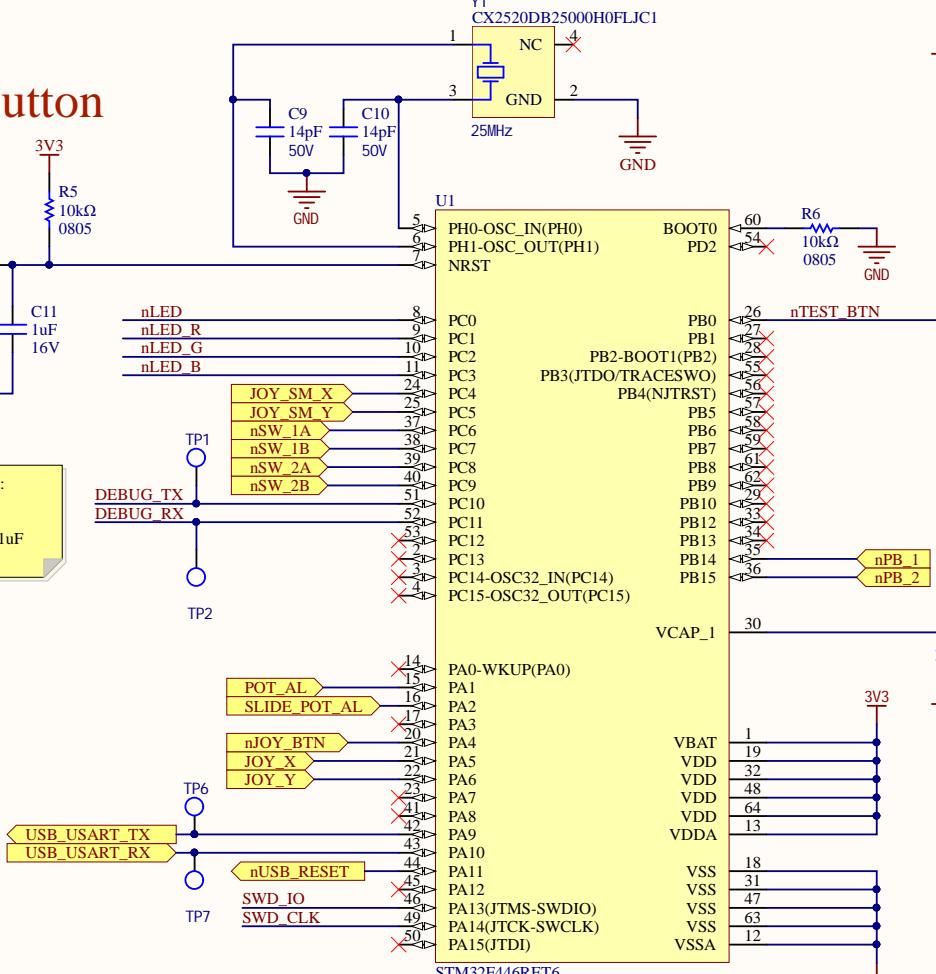


Reset Button

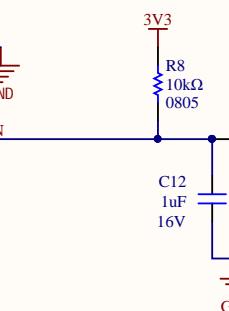


For Debounce Circuit:
 $T=RC \rightarrow C = T/R$
 $C = 10ms/10kOhms = 1uF$

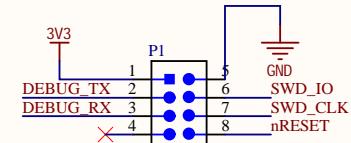
STM32F446RET6



Test Button



Debug/Programming



Title SH1 MCU

Size: Letter Drawn By: Qi nyang Bao

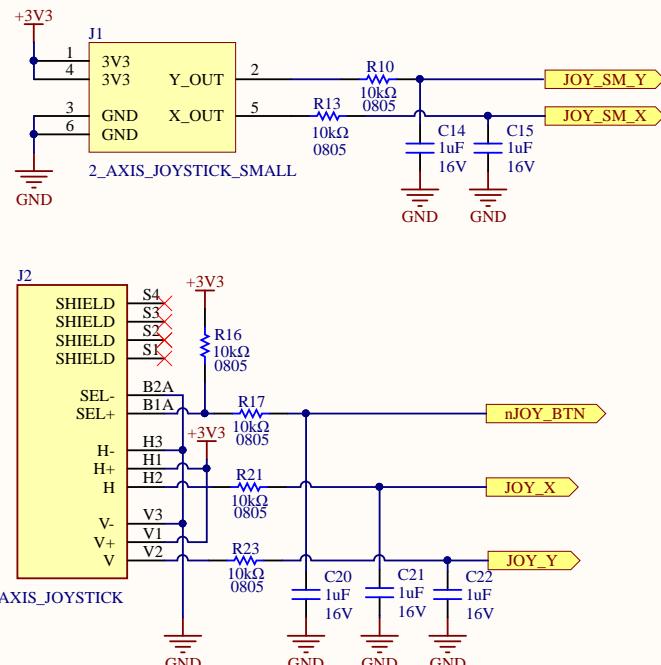
Date: 2020-05-31

Sheet1 of 4

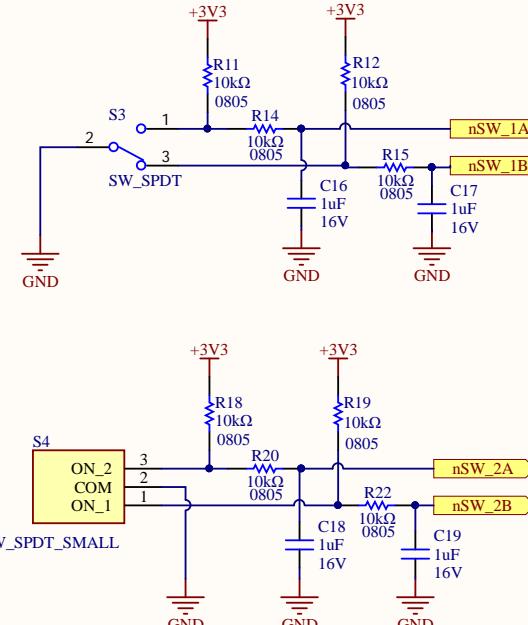
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UW
ROBOTICS
 TEAM

2-Axis Joysticks

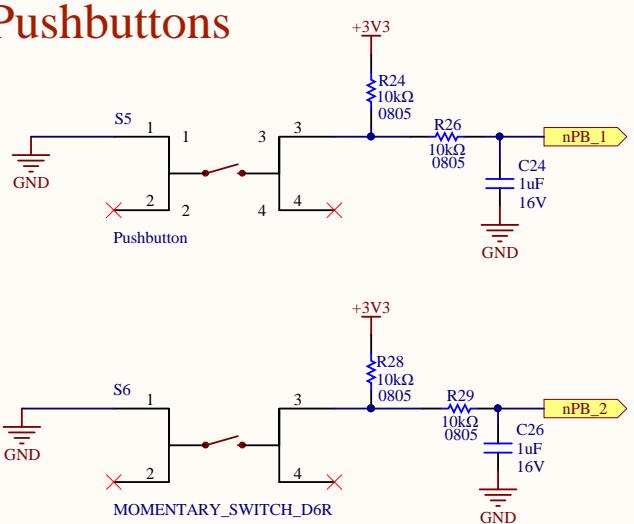


SPDT Switches

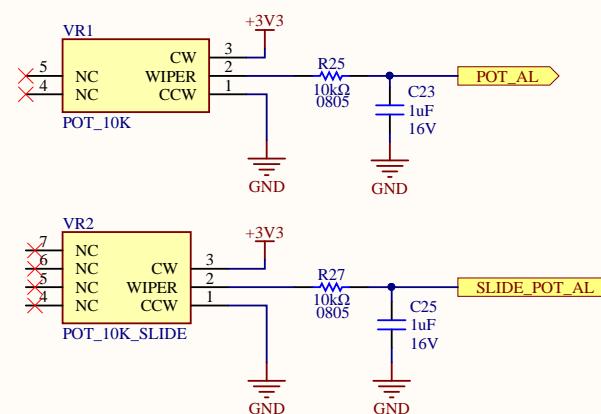


Pushbuttons

For Debounce Circuits:
T=RC -> C= T/R
C= 10ms/10kOhms= 1uF



Potentiometers



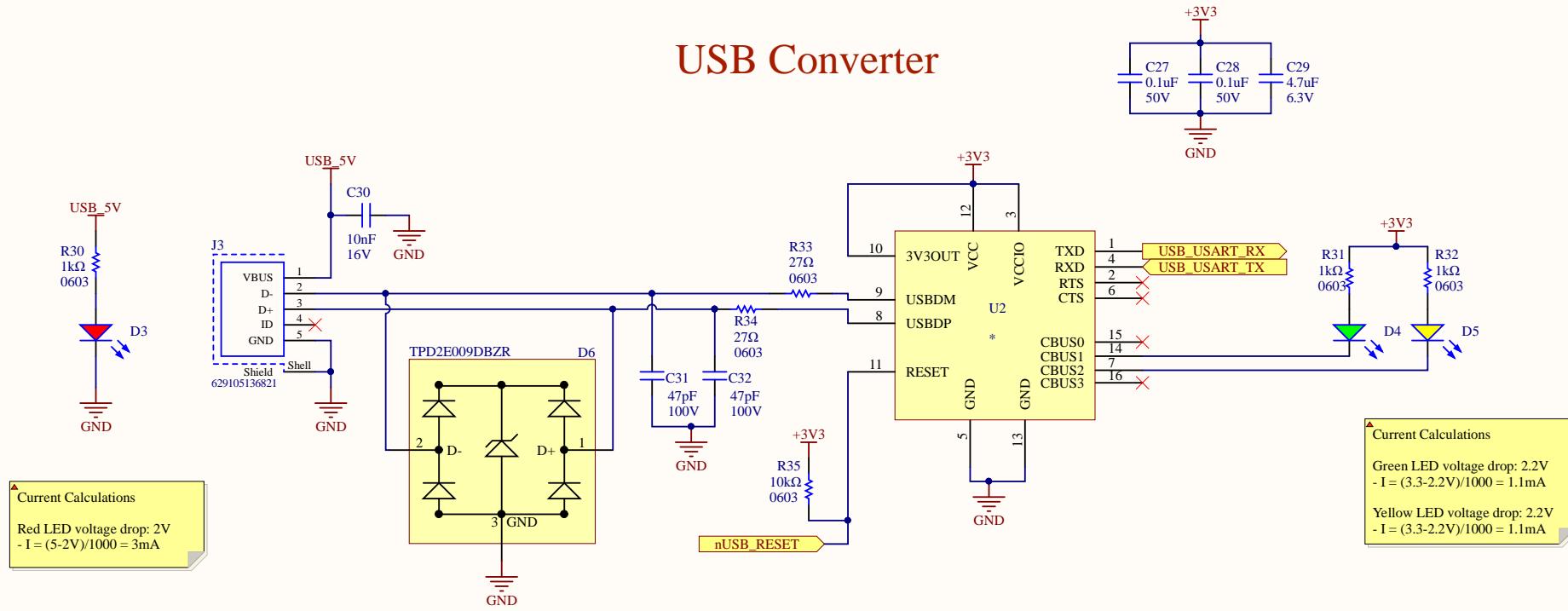
Title: SH2-CONTROLS

Size: Letter Drawn By: Qi nyang Bao

Date: 2020-05-31

File: C:\Users\pkmn0\Desktop\Document Archive\Other\Electrical Git Repo\MarsRover2020-PCB\Projects\Robot Controller\

USB Converter



A

A

B

B

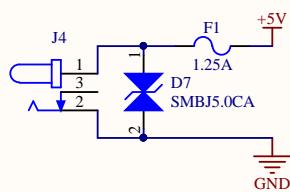
C

C

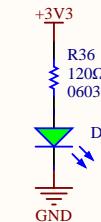
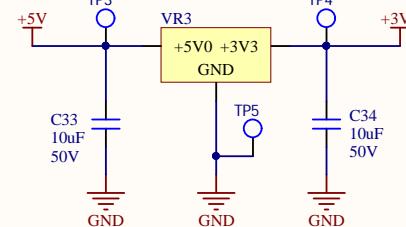
D

D

Power In



5V to 3V3 LDO



Current Calculations
Green LED voltage drop: 2.2V
 $- I = (3.3-2.2V)/120 = 9mA$

Title: SH4-POWER

Size: Letter | Drawn By: Christopher Arjune

Date: 2020-05-31

Sheet 4 of 4

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