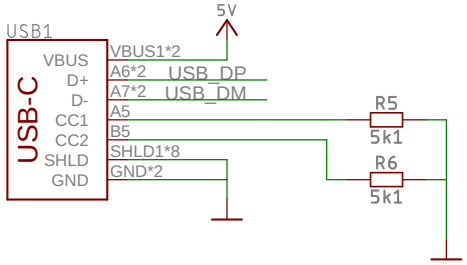
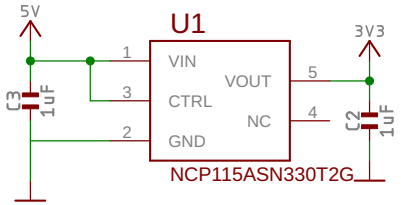
Servo 2040 – RP2040 et al

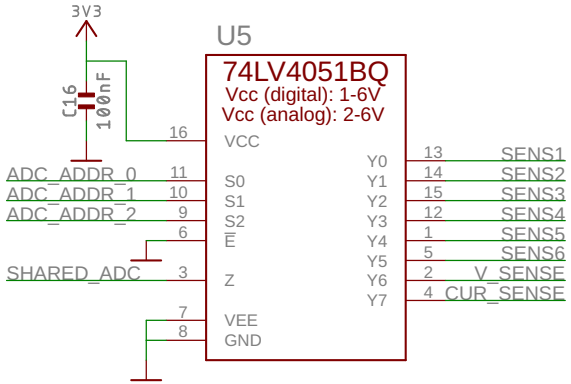
USB-C connector



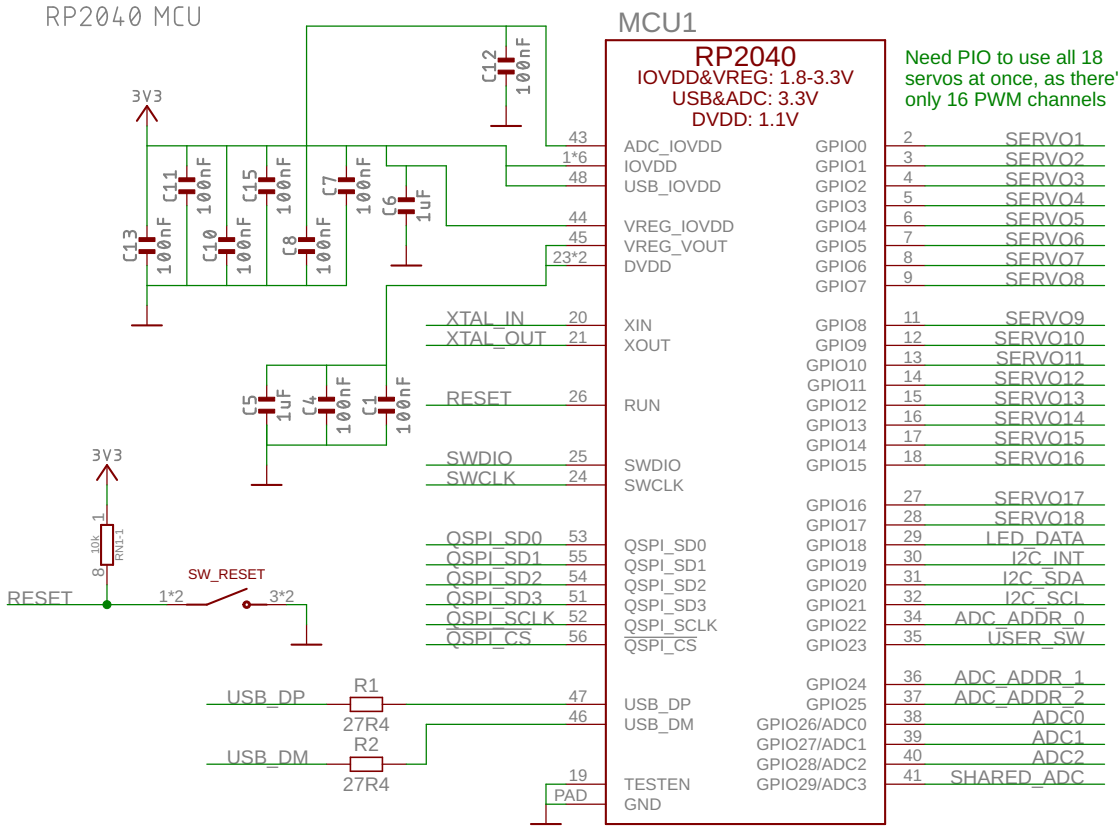
LDO



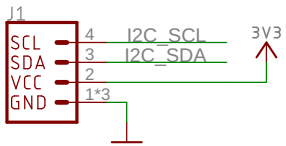
ADC Multiplexer



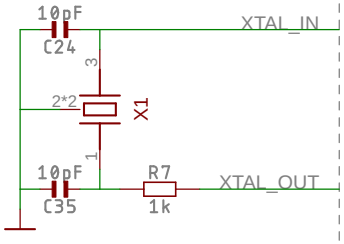
RP2040 MCU



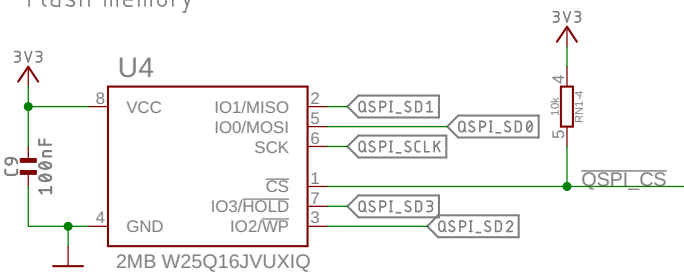
Qw/st connector



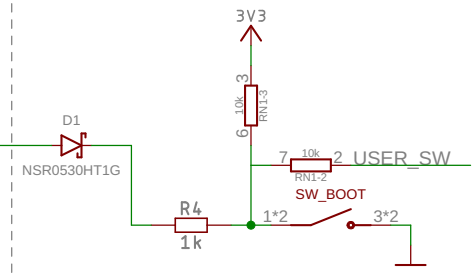
Crystal oscillator



Flash memory



Combined USB boot & user switch



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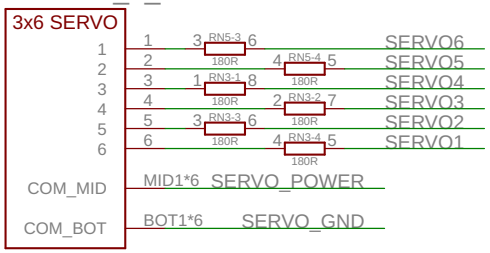
DATE GENERATED 01/04/2022 13:50

SHEET 1/3

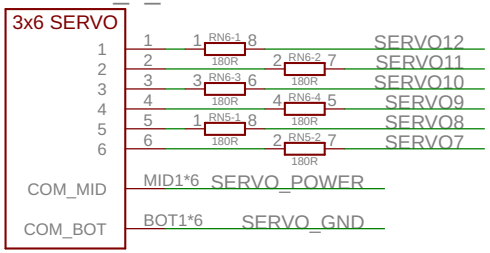
Servo 2040 – Power and Connectors

Servo connectors

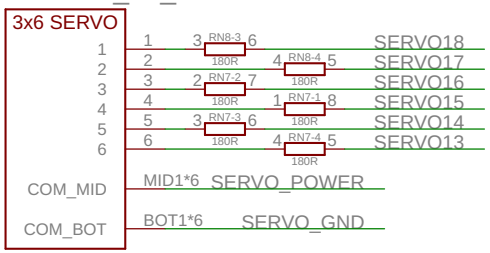
SERVO_1_18



SERVO_7_12

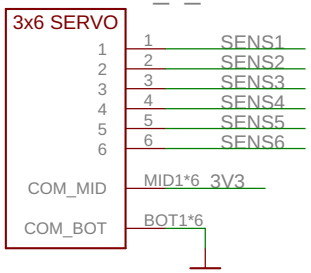


SERVO_13_18

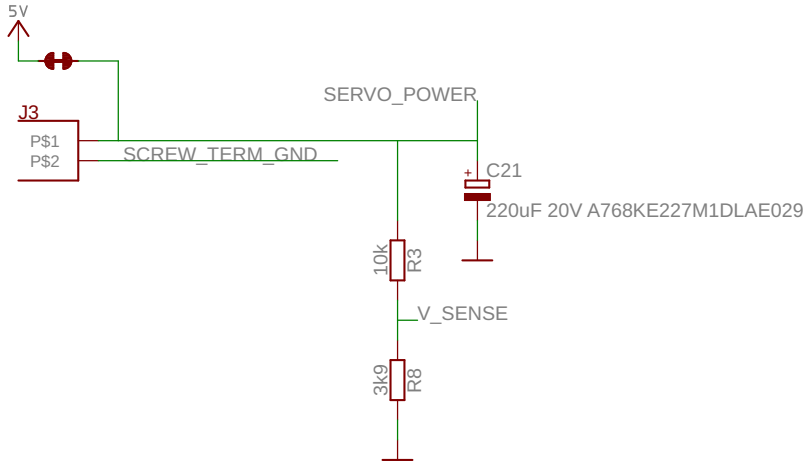


Sensor connectors

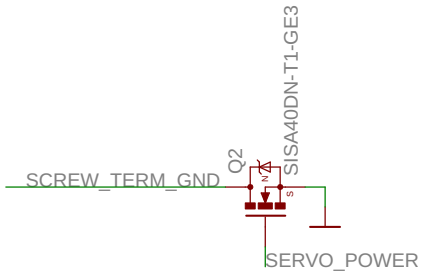
SENSORS_1_6



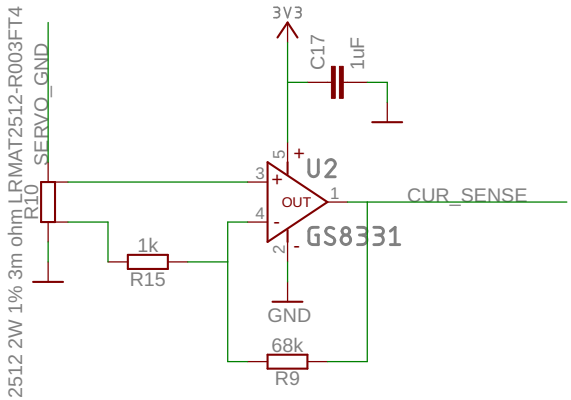
Screw terminal power input & voltage sense



Screw terminal reverse voltage protection



Current sense



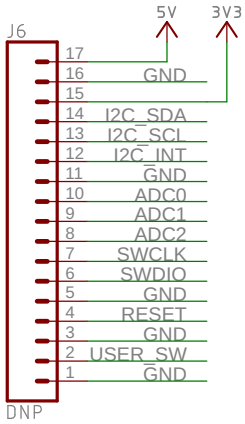
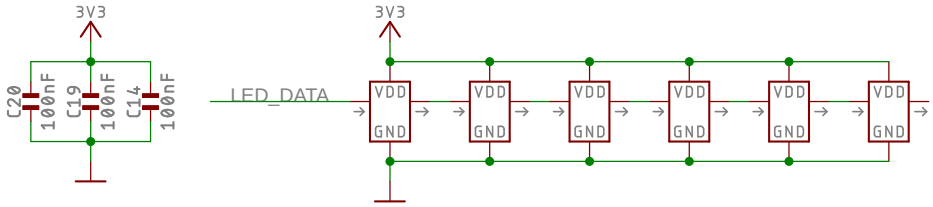
Resistor power at 10A:
10*10*0.003 = 0.3W
Or 15A: = 0.675W

Max voltage across sense resistor:
0.003 ohm * 15A = 0.045V
0.003 ohm * 20A = 0.060V

With 1k and 68k resistors, gain is 69x.
Thus 0.045V becomes 3.105V.

Servo 2040 – Header & LEDs

Extension header



RGB LEDs