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Sheet: /IMU/

File: IMU.kicad_sch

Title: MCU Controller

Size: B

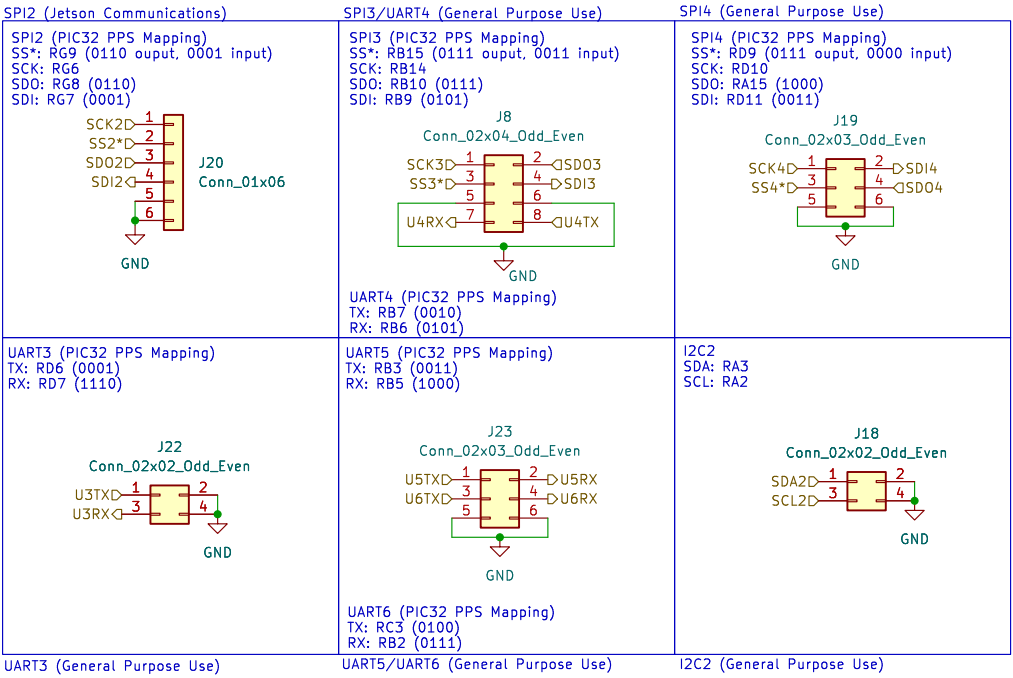
Date:

Rev: 0.3

KiCad E.D.A. 9.0.2

Id: 3/12

Groups pins together for SPI/UART/I2C for Jetson communication and for future use.



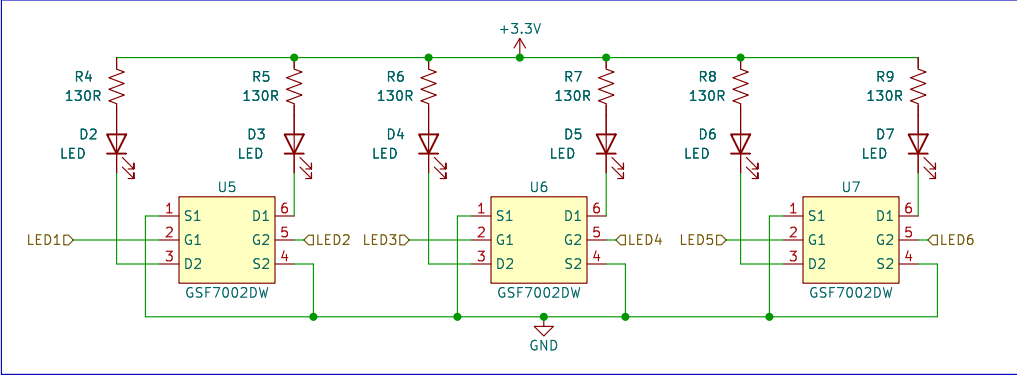
Pairs with DigiKey PN WM2015-ND

1
2
3
4
5
6

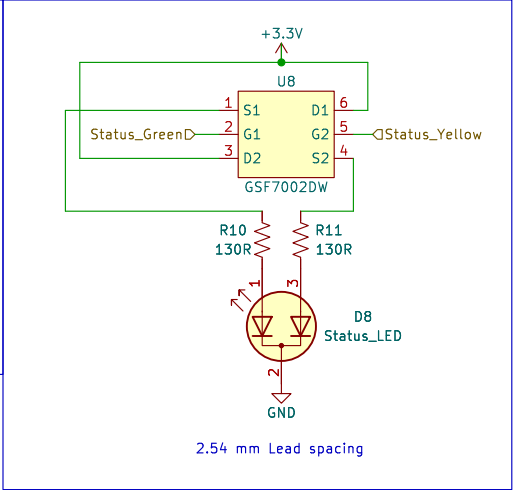
J27
Conn_01x06_Socket

GND
GND

General Purpose LEDs

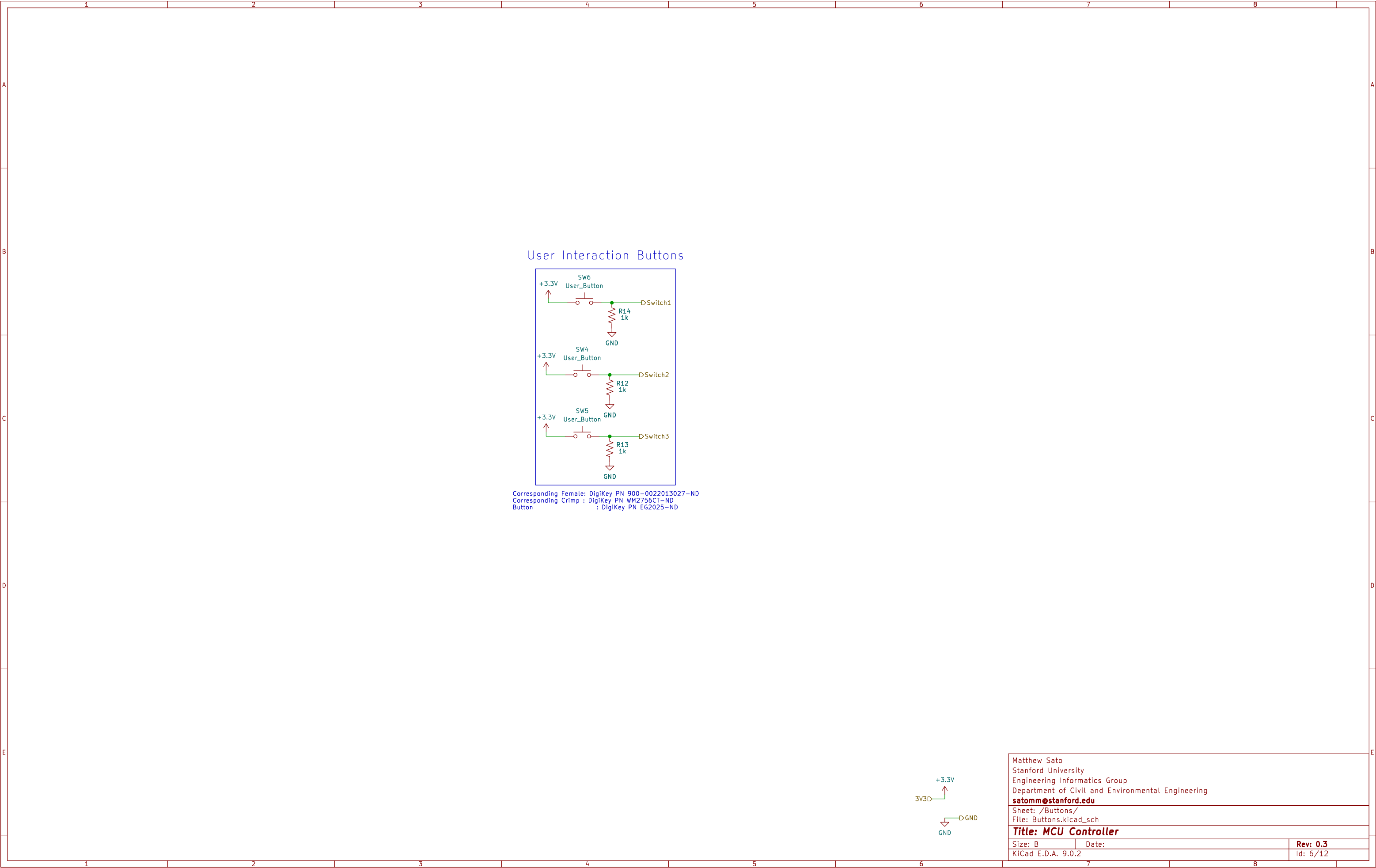


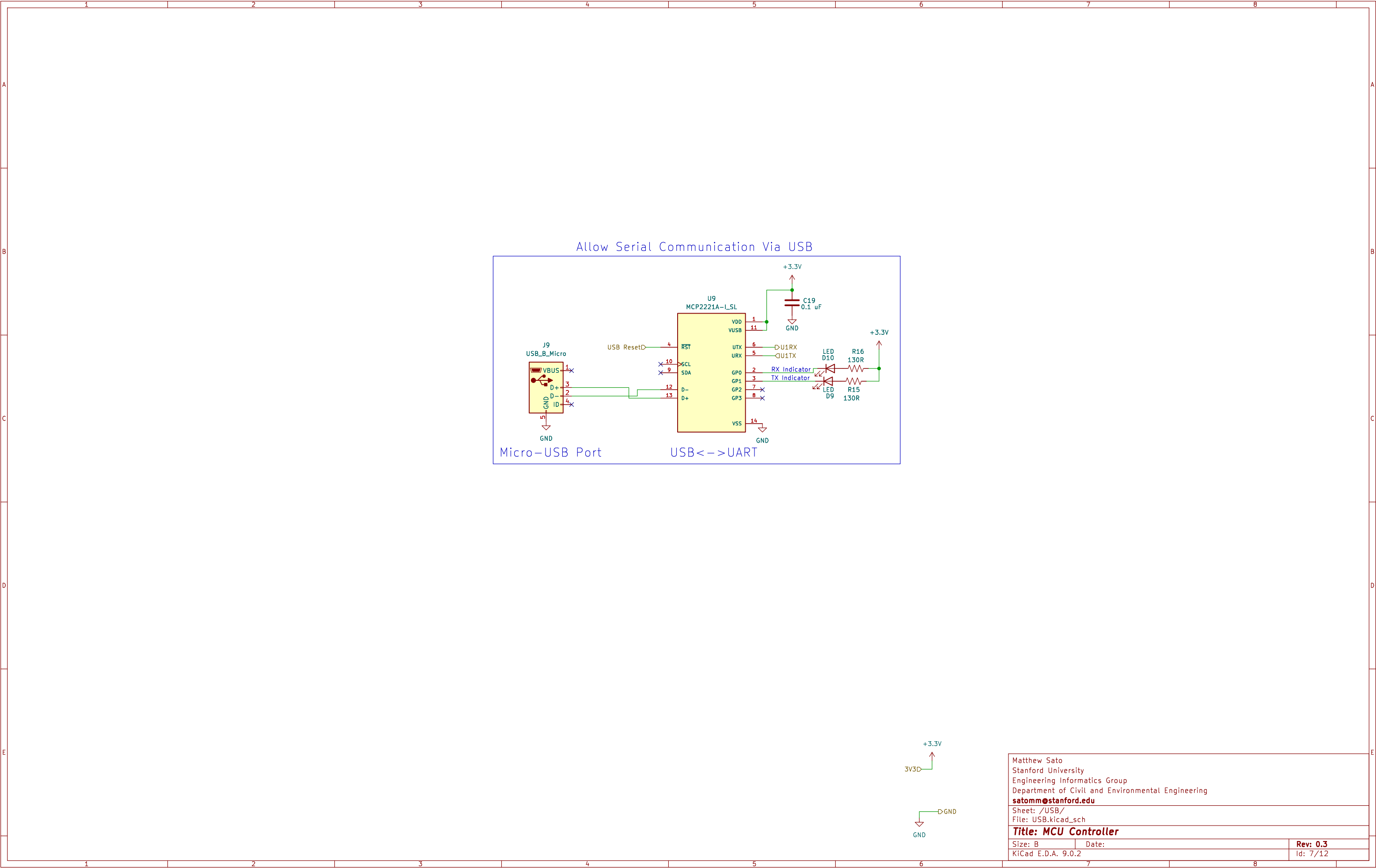
Robot Active/Inactive LED



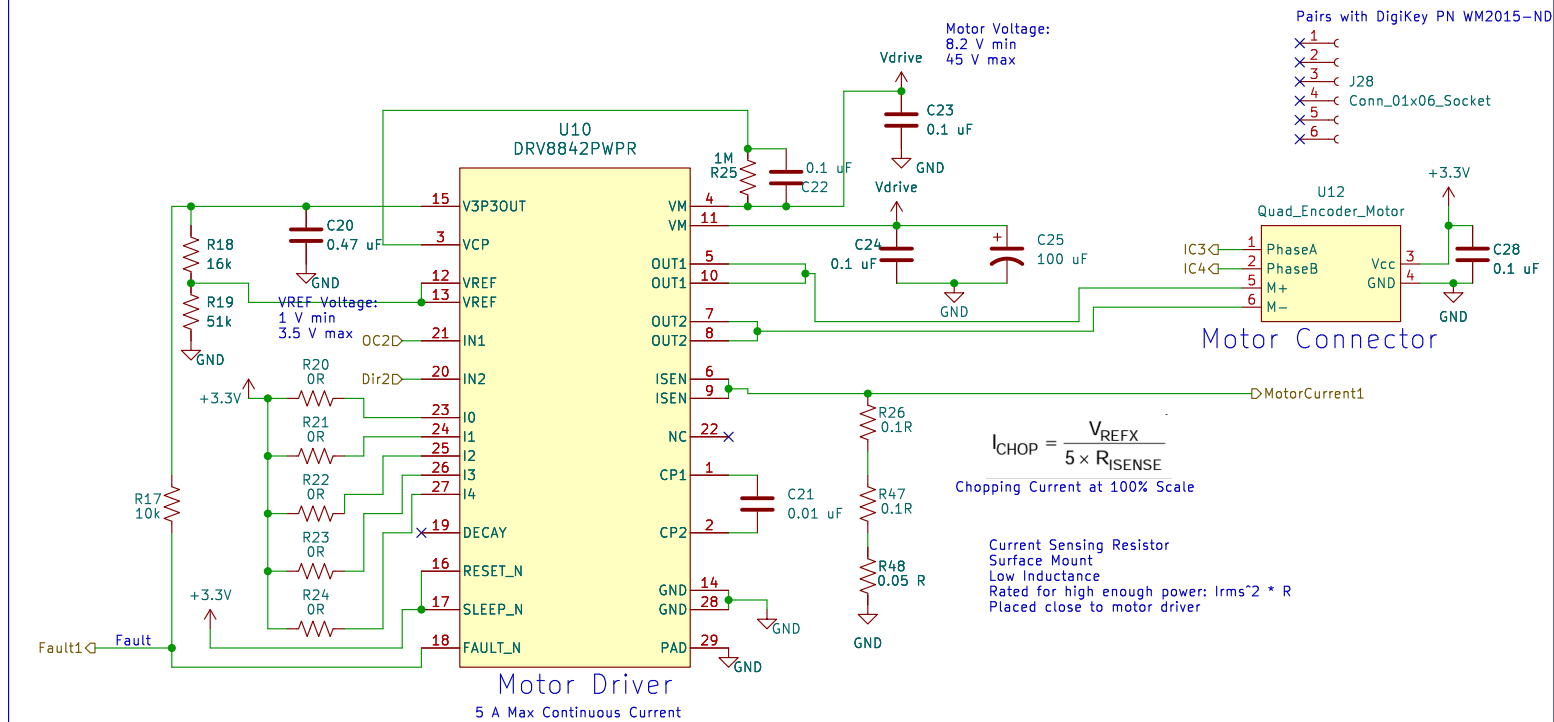
Corresponding Female: DigiKey PN 900-0022013037-ND
Corresponding Crimp : DigiKey PN WM2756CT-ND



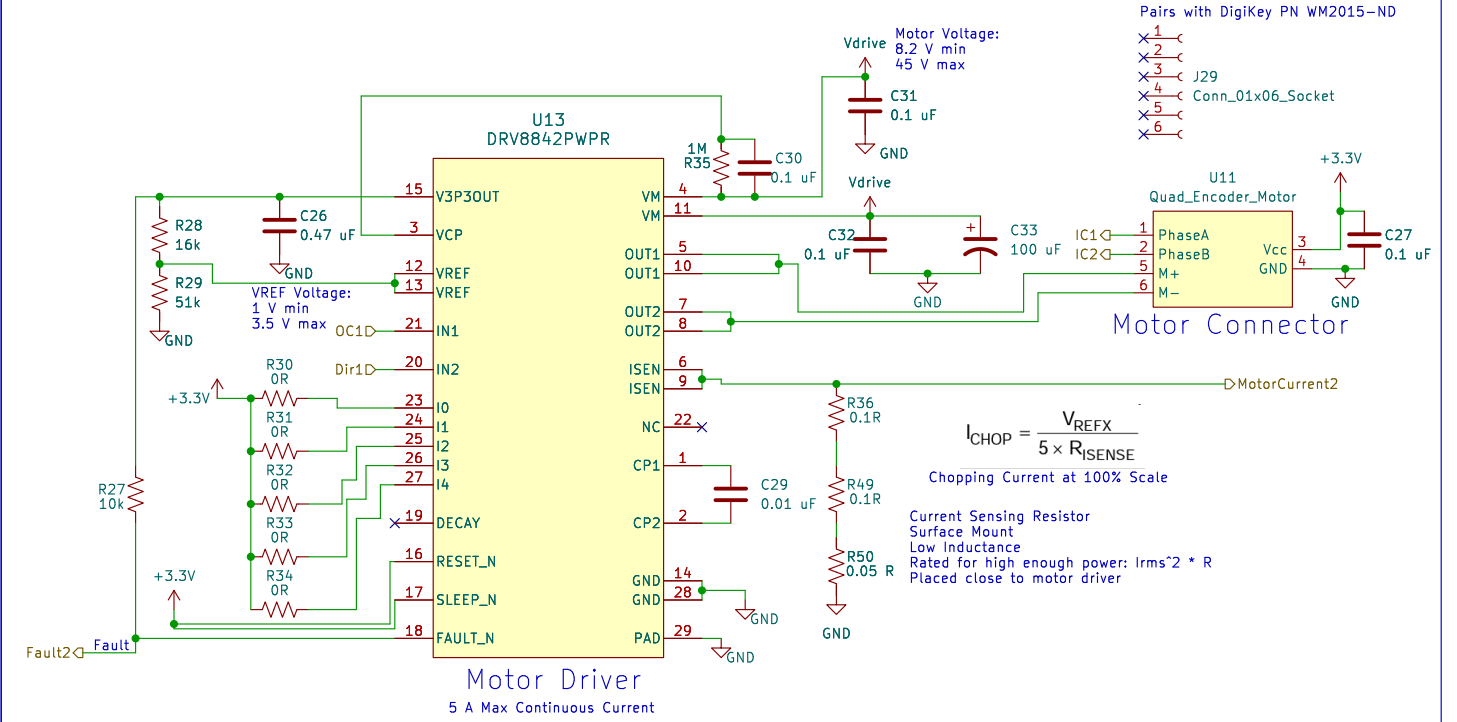




Left Motor Driver



Right Motor Driver



Corresponding Molex for Motor Connector:
Corresponding Female: DigiKey PN WM2002-ND
Corresponding Crimp : DigiKey PN WM2756CT-ND

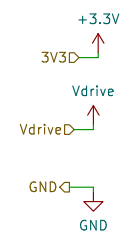
xIN1	xIN2	xOUT1	xOUT2
0	0	L	L
0	1	L	H
1	0	H	L
1	1	H	H

PWM Frequency:
100 kHz max

Slow Decay: Logic low
Mixed Decay: Open
Fast Decay: Logic high

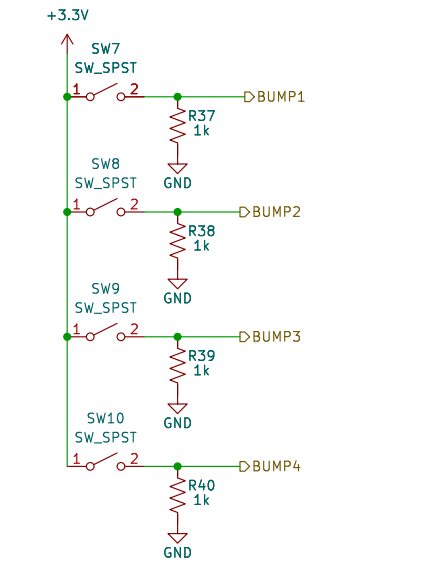
10 – 14 Function

[4-q]	RELATIVE CURRENT (% FULL-SCALE CHOPPING CURRENT)
0x00h	0%
0x01h	5%
0x02h	10%
0x03h	15%
0x04h	20%
0x05h	24%
0x06h	29%
0x07h	34%
0x08h	38%
0x09h	43%
0x0Ah	47%
0x0Bh	51%
0x0Ch	56%
0x0Dh	60%
0x0Eh	63%
0x0Fh	67%
0x10h	71%
0x11h	74%
0x12h	77%
0x13h	80%
0x14h	83%
0x15h	86%
0x16h	88%
0x17h	90%
0x18h	92%
0x19h	94%
0x1Ah	96%
0x1Bh	97%
0x1Ch	98%
0x1Dh	99%
0x1Eh	100%
0x1Fh	100%



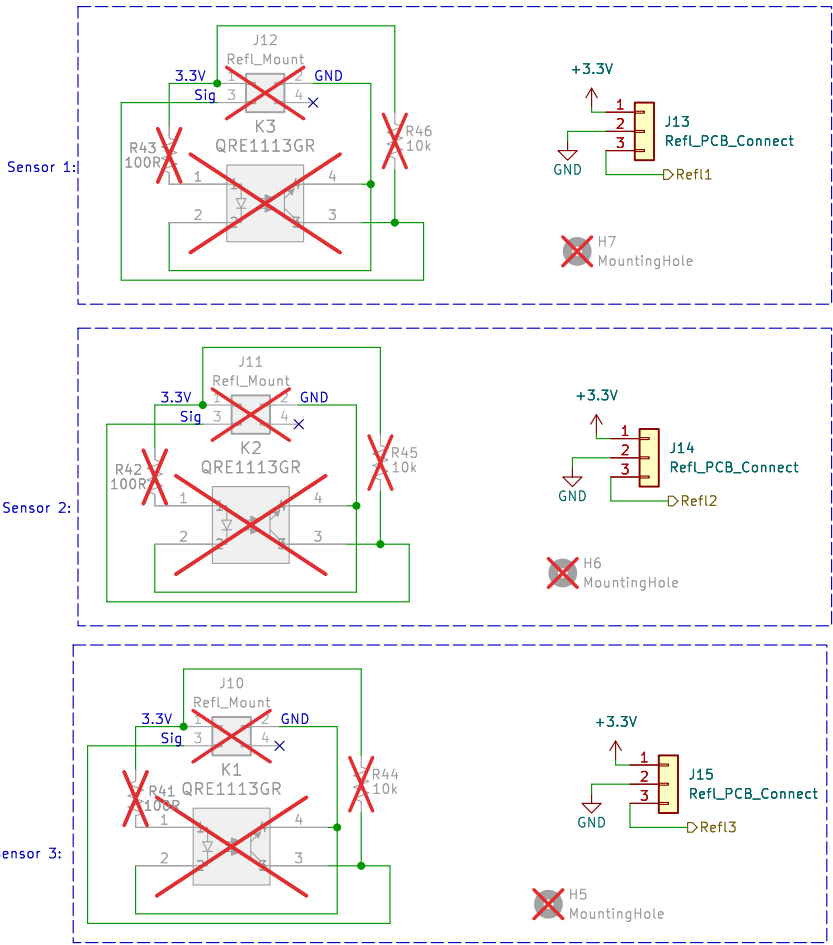
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Bumper Sensors



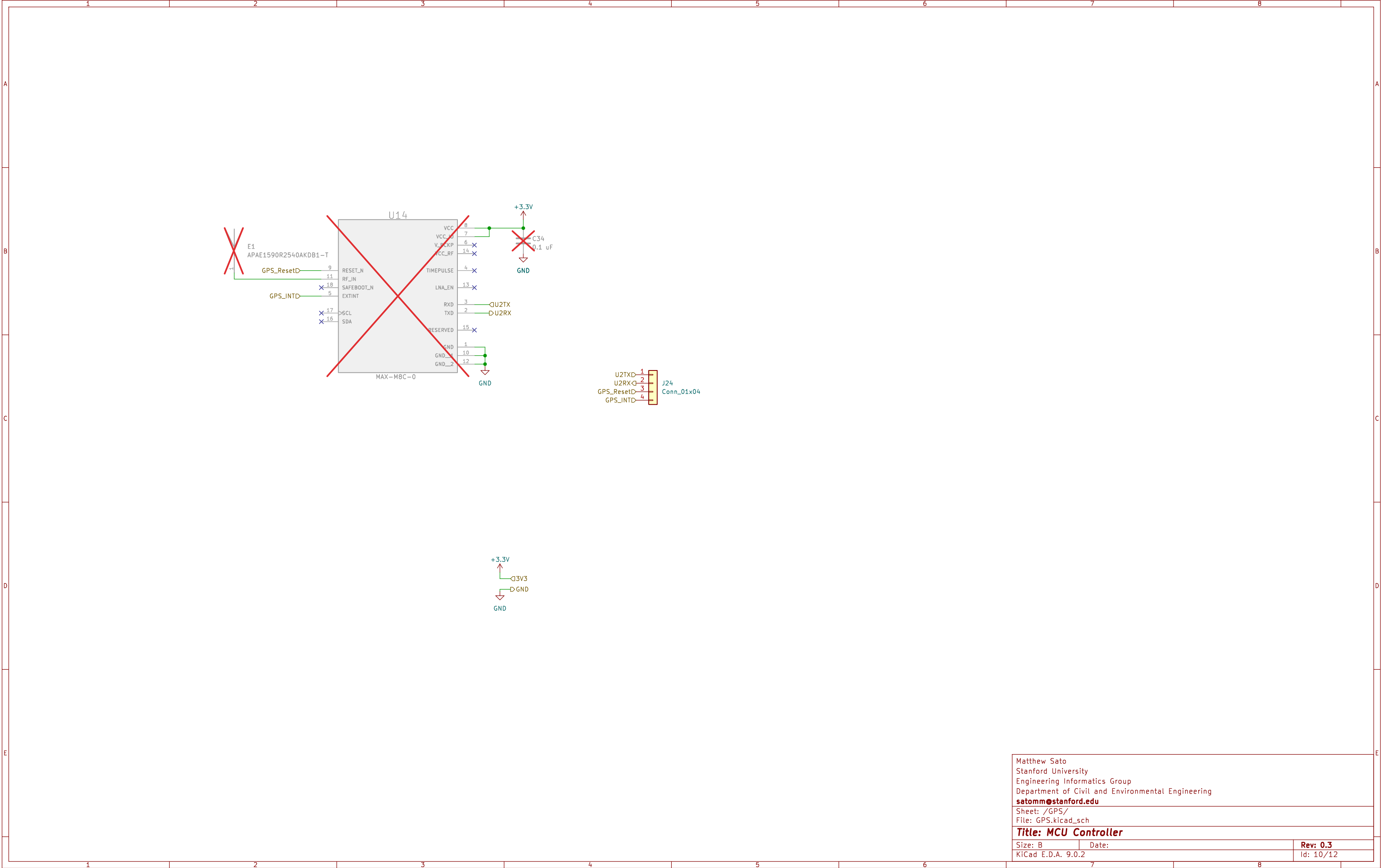
Corresponding Female: DigiKey PN 900-0022013027-ND
Corresponding Crimp : DigiKey PN WM2756CT-ND
Limit Switch : DigiKey PN _____

Reflective Optical Sensors
(Cliff Sensor)

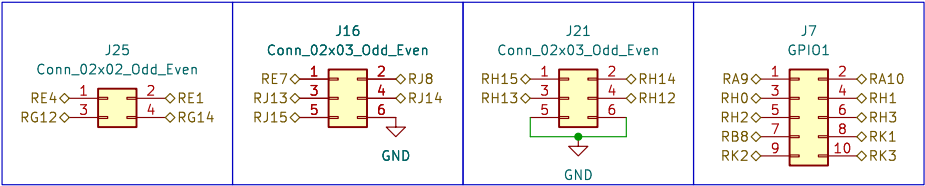


Corresponding Female: DigiKey PN 900-0022013037-ND
Corresponding Crimp : DigiKey PN WM2756CT-ND

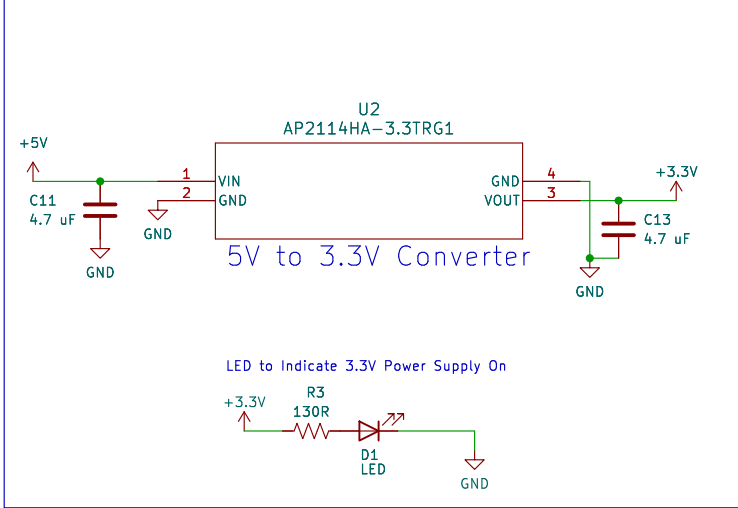




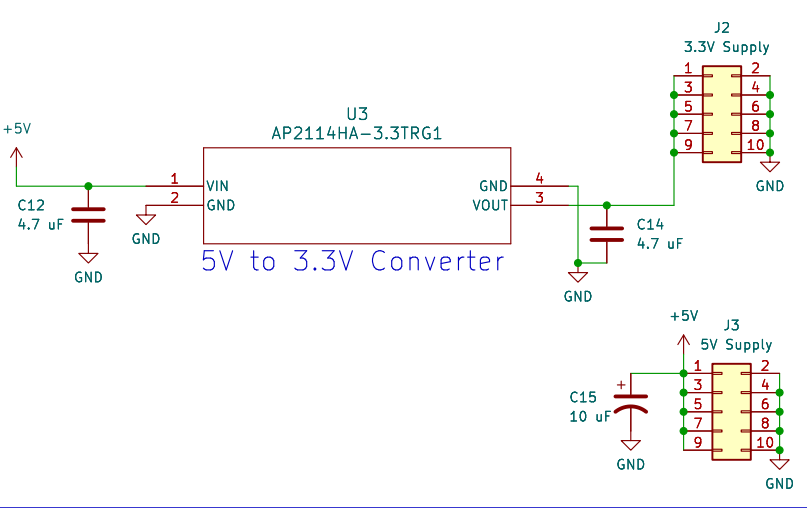
Provide Access to Unused Pins



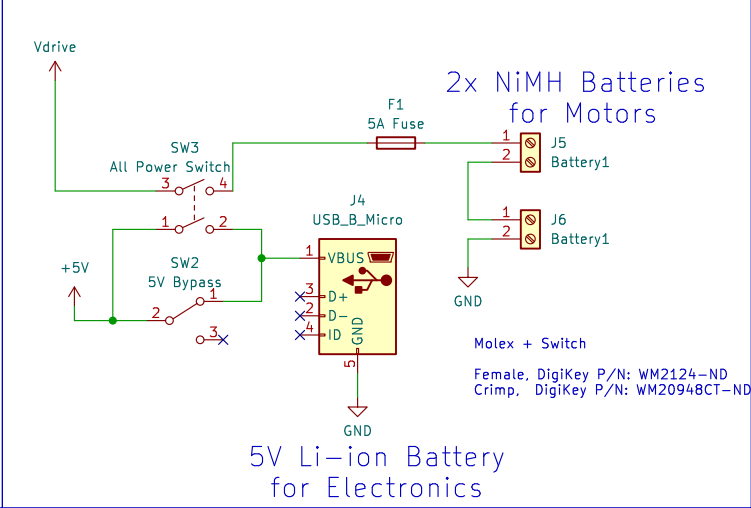
3.3V Converter for ICs



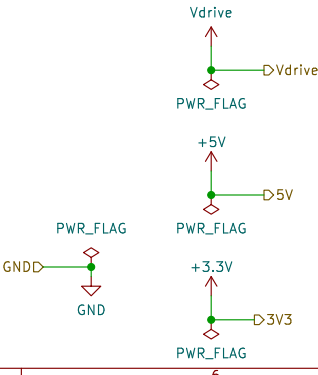
Auxilliary Power Pins



Power Switches



Inputs:
1) Motor Battery: 2x NiMH Battery, 7.2 V Each
2) Battery for MCU: 5 V



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