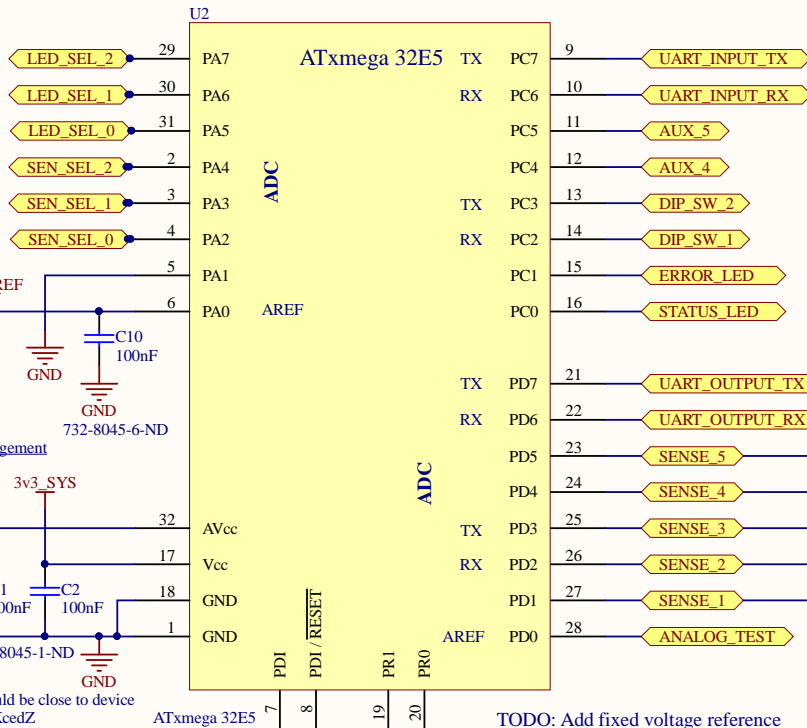
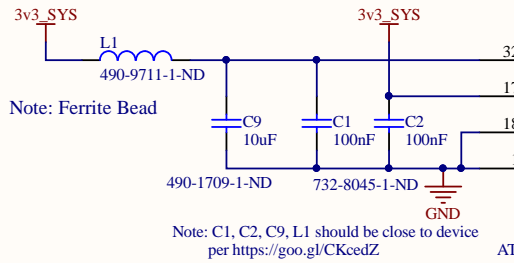


MCU



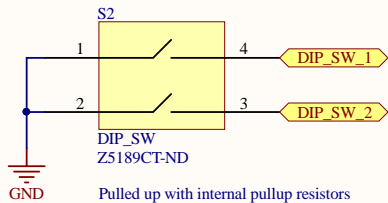
Source Code

Note: Source code can be found at:
<https://github.com/OSURoboticsClub/InventoryManagement>

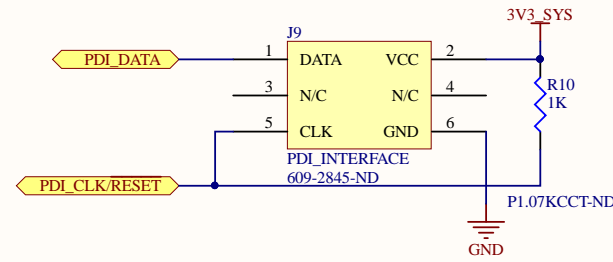


TODO: Do we want some voltage divider references on the ADC inputs?

Settings Switch



MCU PDI

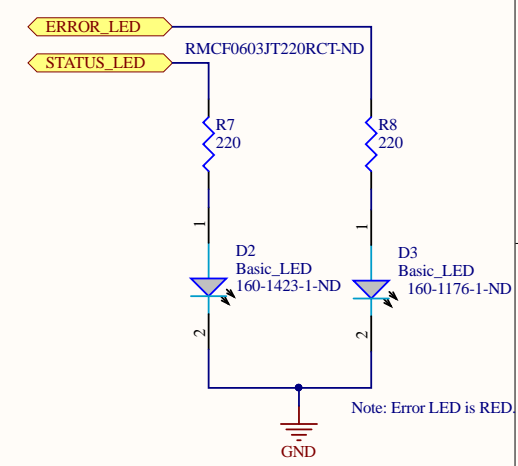


XMega ADC Application Notes

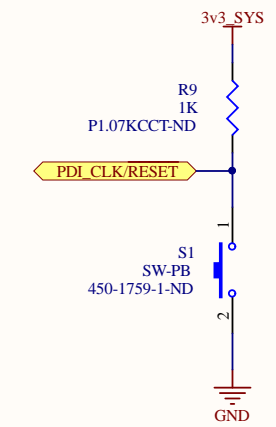
Note: One of the first 7 channels needs to be GND, for our reference
 Note: AREFA and AREFD are bit 0
 Note: They need to be fed (3v3-.6) volts if used

TODO: Add fixed voltage reference

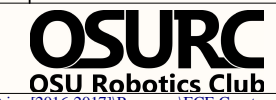
MCU LEDs



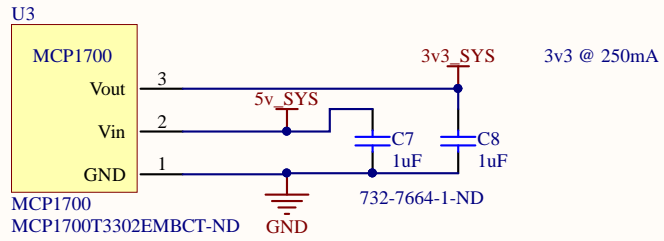
MCU Reset



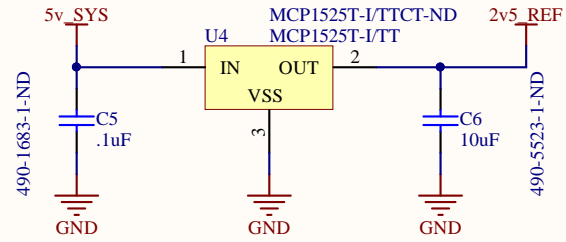
Title: Microcontroller.SchDoc		
Size: A4	Number: 1	Engineer: Nick McComb
Date: 3/9/2017	Time: 10:29:50 PM	Sheet 1 of 6
File: C:\Users\nrpc\000\Google Drive\Robotics Club\OSURC Master Drive [2016-2017]\Programs\ECE Capstone - Inventory Man		



3v3 Linear



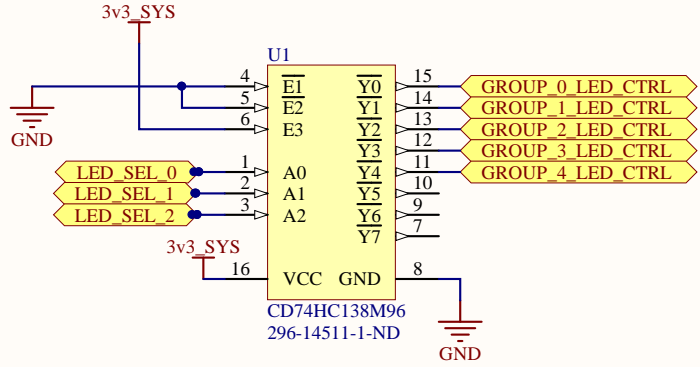
2v5v Reference



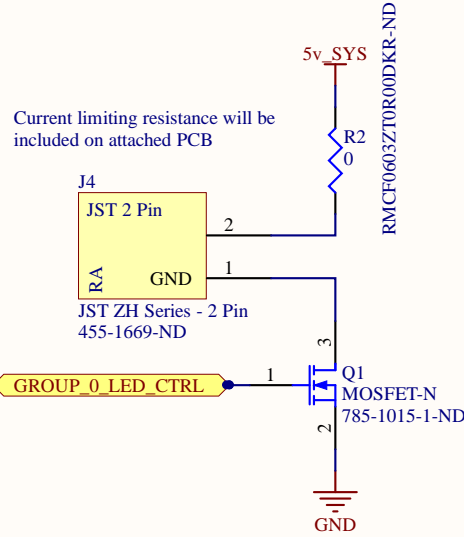
Max Current: 8mA

Title PowerManagement.SchDoc			Cannot open file C:\Users\Nick\Downloads\LogoBl ck.png
Size: A4	Number: 2	Engineer: Nick McComb	
Date: 3/9/2017	Time: 10:29:50 PM	Sheet 2 of 6	
File:			

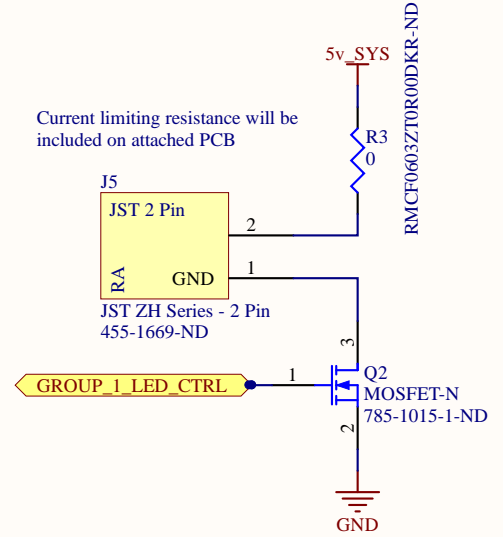
Multiplexing



TODO: Change to HC238
 Note: Target P/N 296-17124-1-ND

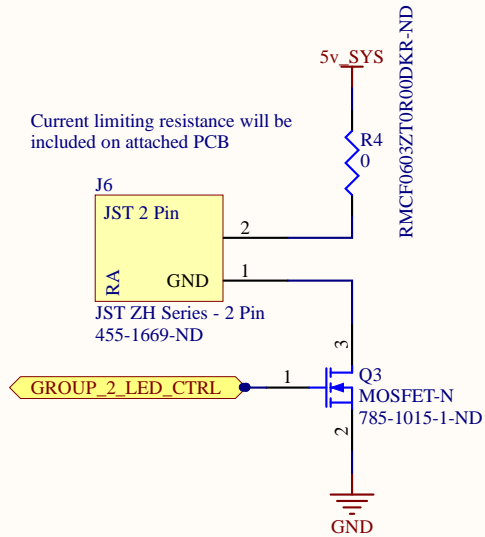


Current limiting resistance will be included on attached PCB

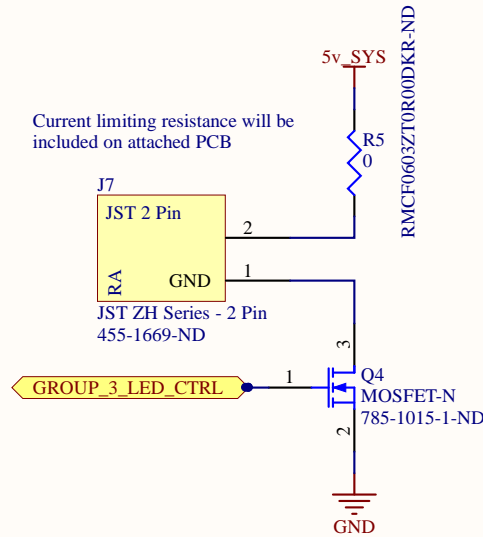


Current limiting resistance will be included on attached PCB

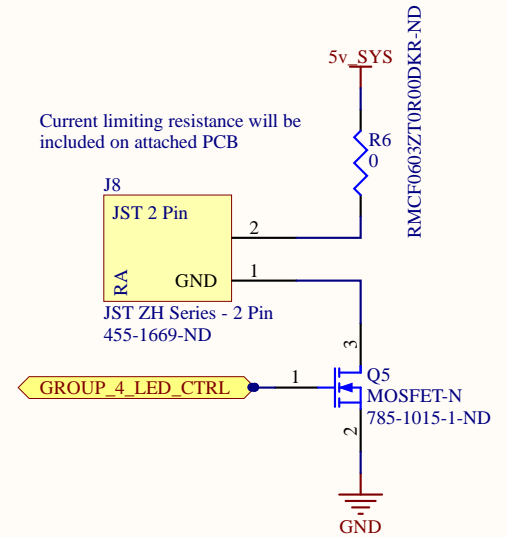
IR LED Control



Current limiting resistance will be included on attached PCB

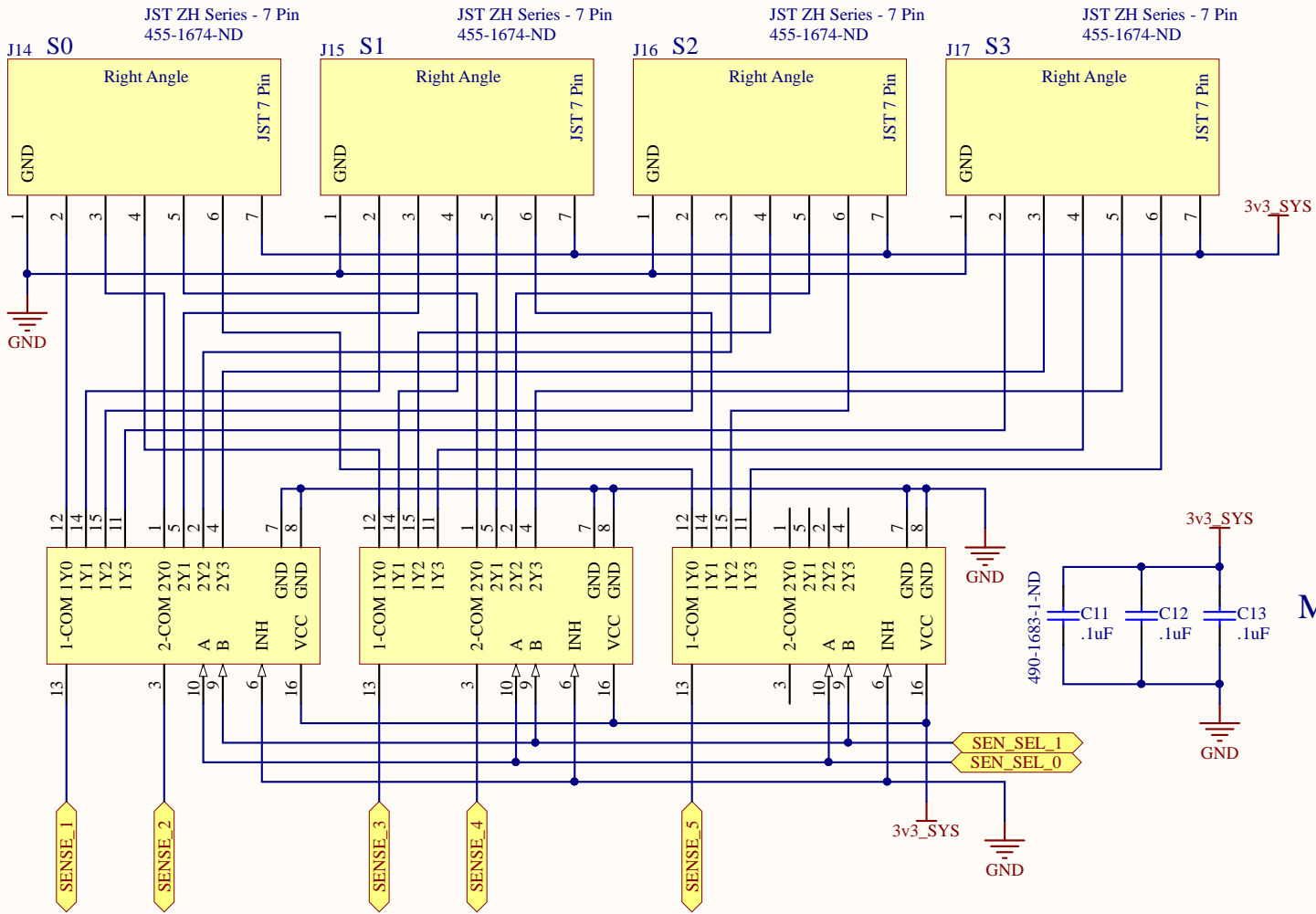


Current limiting resistance will be included on attached PCB

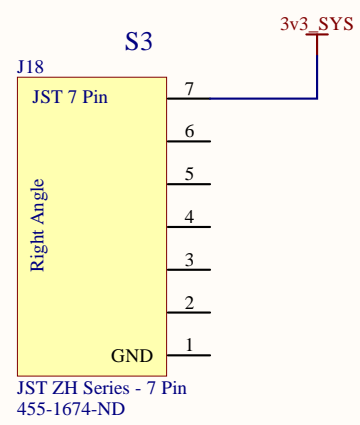


Current limiting resistance will be included on attached PCB

Note: These connections are to PCBs that control the LED outputs
 They provide control circuitry for the LEDs



Multiplexing

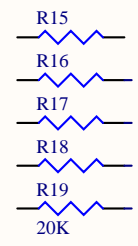


U5
SN74LV4052APWR

U6
SN74LV4052APWR

U7
SN74LV4052APWR

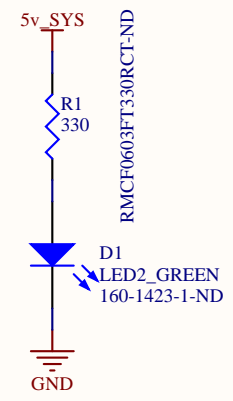
Note: R15-19 DNP



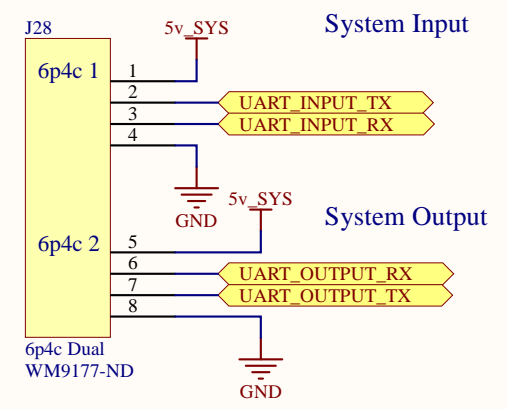
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Size: A4	Number: 4	Engineer: Nick McComb	
Date: 3/9/2017	Time: 10:29:50 PM	Sheet 4 of 6	
File:			

UART Communication

Power Input



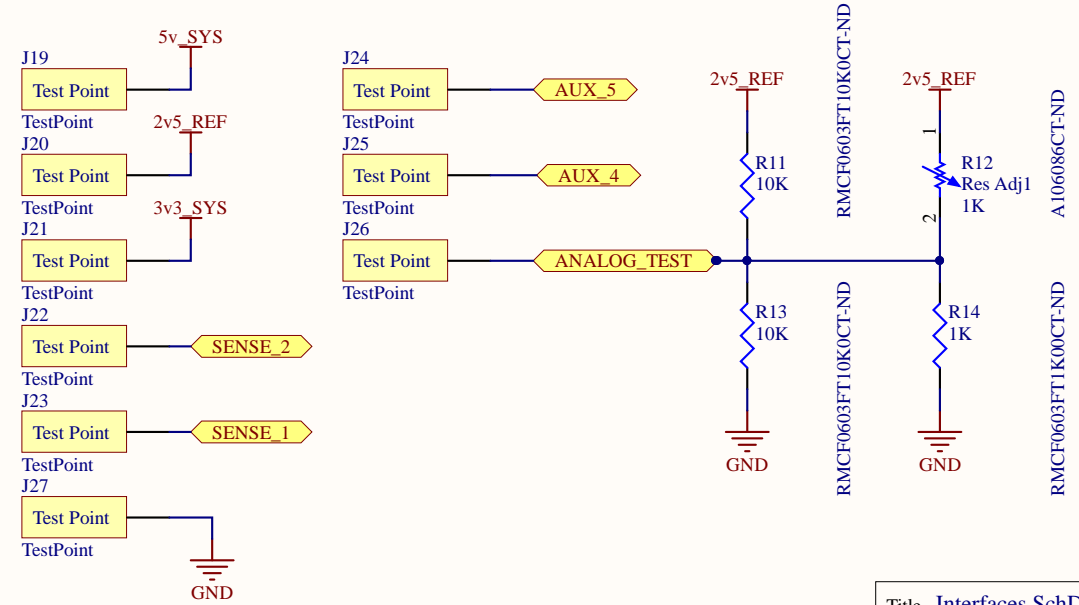
Note: JST Series rated for 1A per pin using 26 AWG rated wire



TODO: CHECK PINOUT for connector

UART Communication

Note: Use either R11&R10 OR R12&R14



Title Interfaces.SchDoc		
Size: A4	Number: 5	Engineer: Nick McComb
Date: 3/9/2017	Time: 10:29:50 PM	Sheet 5 of 6
File:		

Cannot open file
C:\Users\Nick\Downloads\LogoBlack.png

Mounting Holes

J10

Mounting Hole
MountingHoles

J11

Mounting Hole
MountingHoles

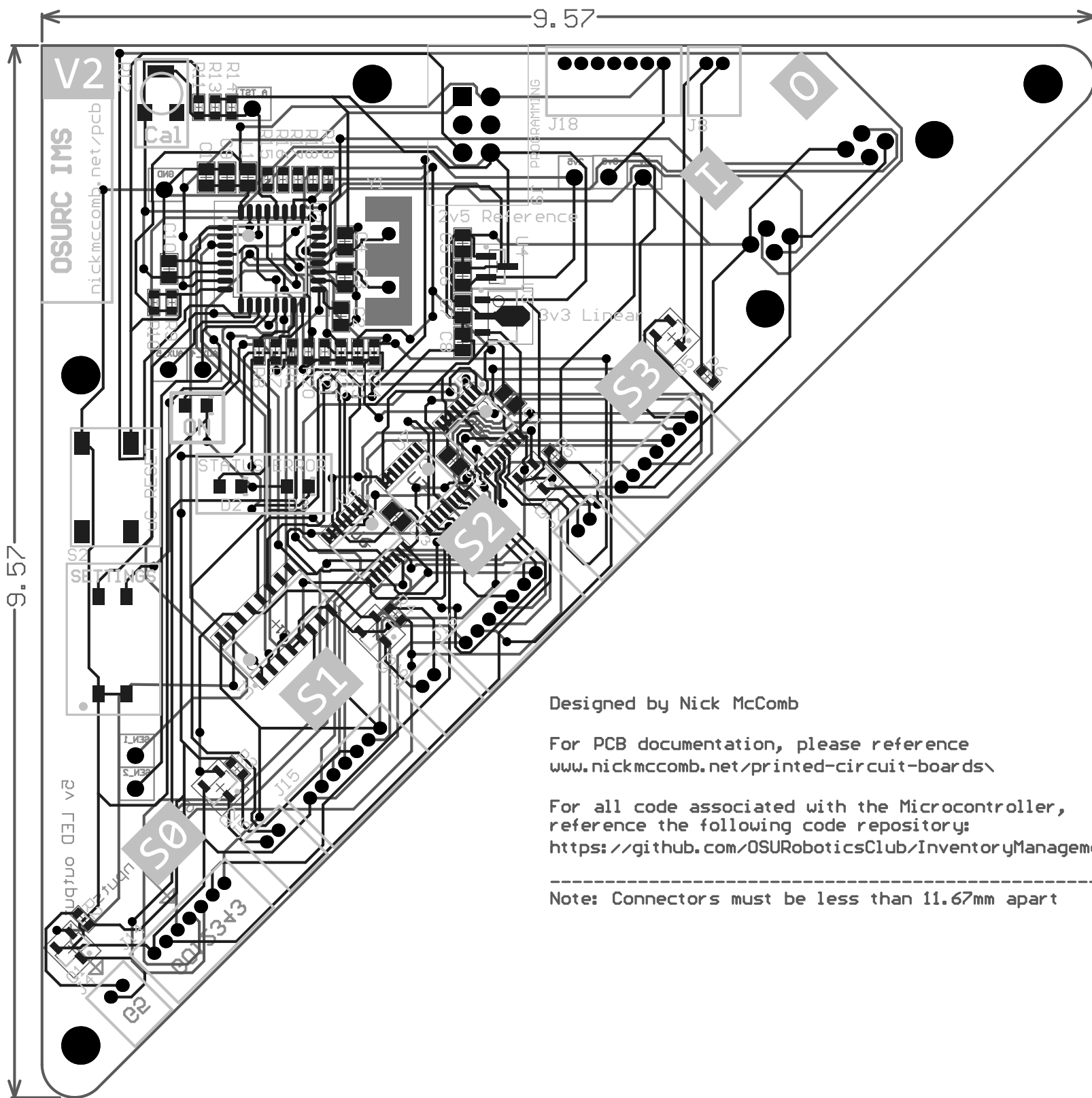
J12

Mounting Hole
MountingHoles

J13

Mounting Hole
MountingHoles

Title MountingHardware.SchDoc			Cannot open file C:\Users\Nick\Downloads\LogoBl ck.png
Size: A4	Number: 6	Engineer: Nick McComb	
Date: 3/9/2017	Time: 10:29:50 PM	Sheet 6 of 6	
File:			



V2
OSURC IMS
nickmccomb.net/pcb

Designed by Nick McComb

For PCB documentation, please reference
www.nickmccomb.net/printed-circuit-boards/

For all code associated with the Microcontroller,
 reference the following code repository:
<https://github.com/OSURoboticsClub/InventoryManagement>

 Note: Connectors must be less than 11.67mm apart