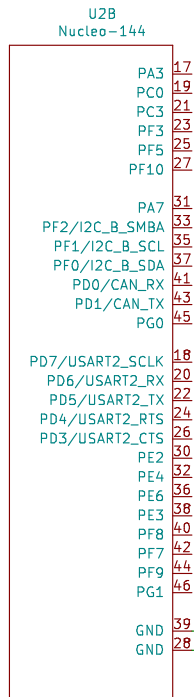
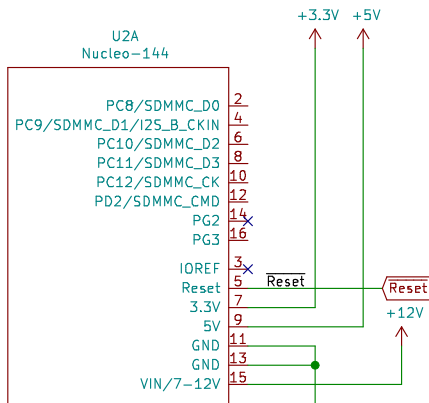
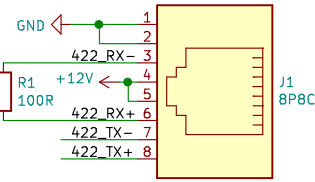
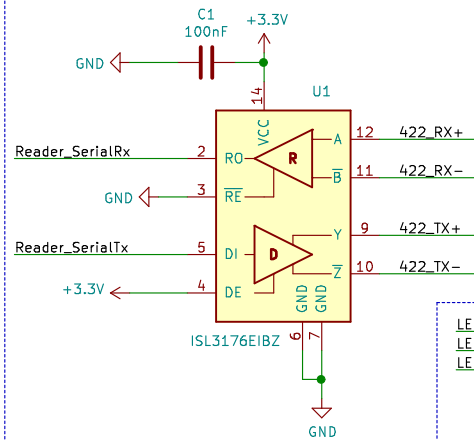


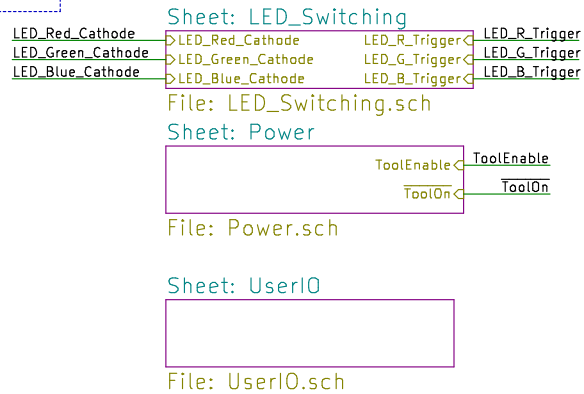
# Nucleo-144 Left Side



# New-Style Reader Connection

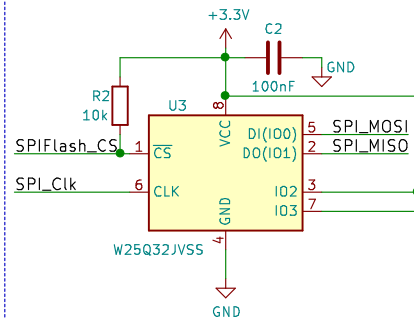


# Other Sheets

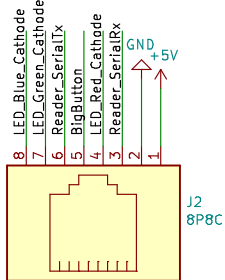


# SPI Flash

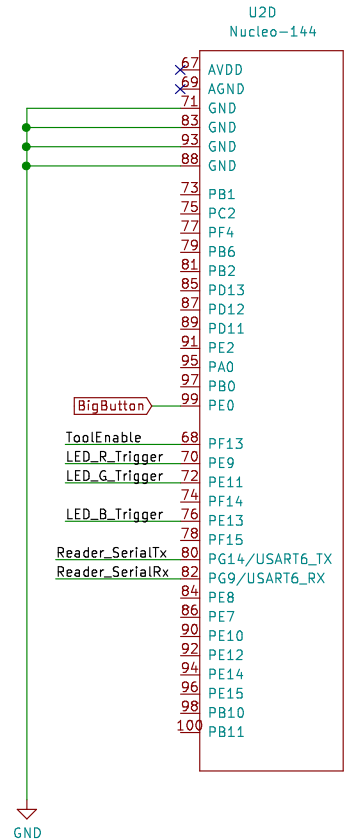
Most SOIC-8 SPI Flash should fit



# Legacy 8P8C Connector



# Nucleo-144 Right Side



PA7,PB13,PG2 used by ethernet peripheral

London Hackspace

Sheet: /

File: acnode-nucleo144.sch

Title: ACNode Nucleo-144 Overlay

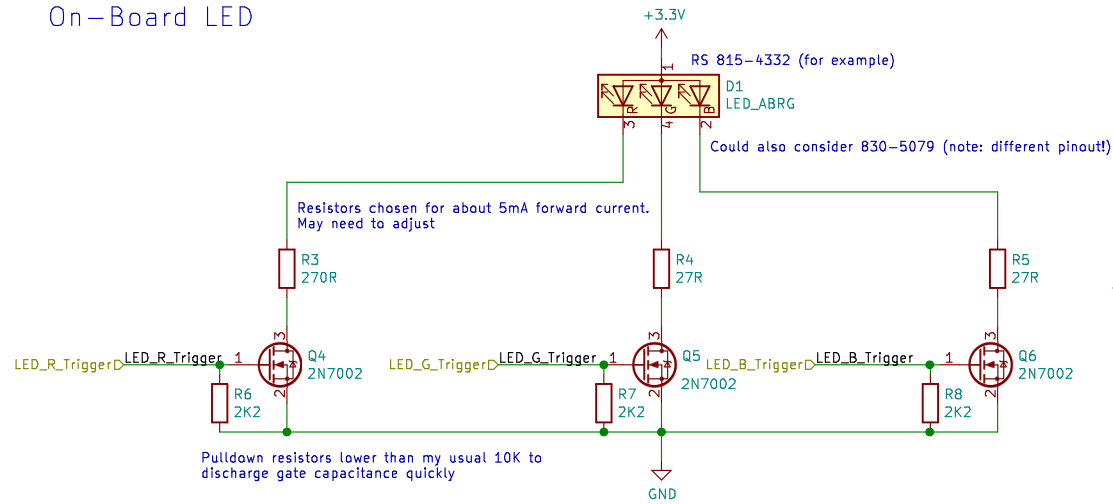
Size: A4 Date: 2020-11-28

KiCad E.D.A. kicad 5.1.6-1.fc32

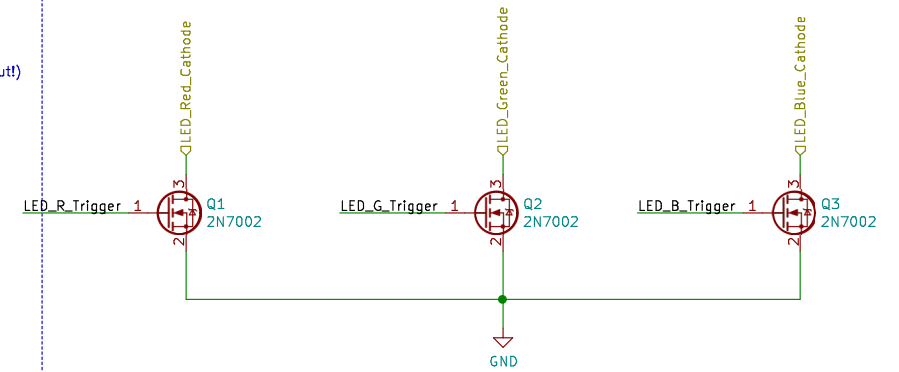
Rev: 1

Id: 1/4

## On-Board LED



## Legacy Reader LEDs



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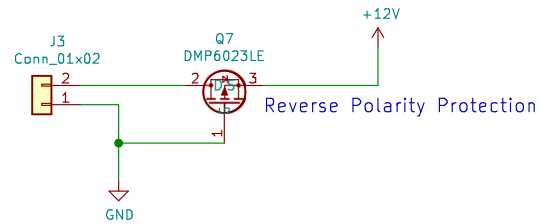
Sheet: /LED\_Switching/  
File: LED\_Switching.sch

### Title: ACNode Nucleo-144 Overlay

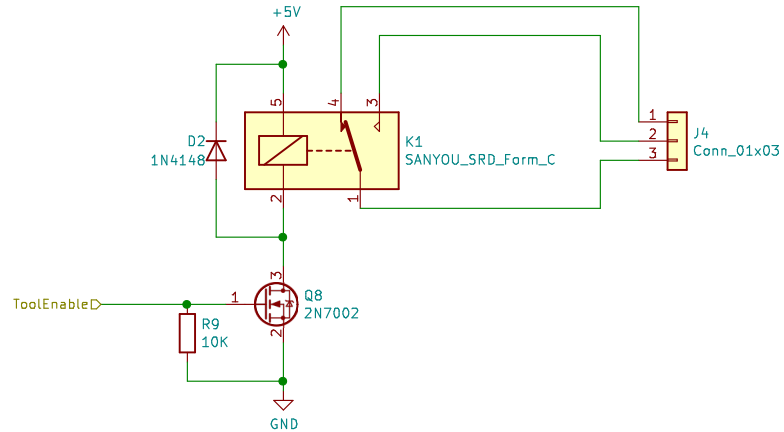
Size: A4 Date: 2020-11-28  
KiCad E.D.A. kicad 5.1.6-1.fc32

Rev: 1  
Id: 2/4

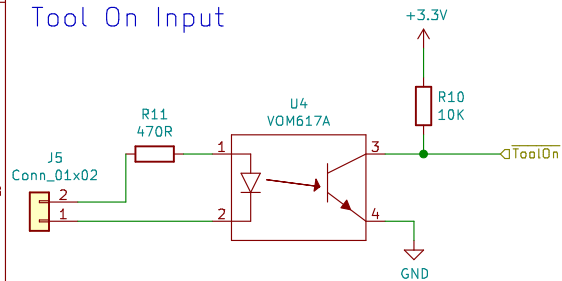
## 12V Power Input



## Tool Switching Relay



## Tool On Input



VOM617A has a typical forward voltage of 1.1V  
With 470R resistor:

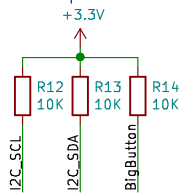
$$\text{If @ } 3.3\text{V} = (3.3 - 1.1) / 470 = 4.68\text{mA}$$

$$\text{If @ } 5\text{V} = (5 - 1.1) / 470 = 8.29\text{mA}$$

$$\text{If @ } 12\text{V} = (12 - 1.1) / 470 = 23.1\text{mA}$$

Max If for VOM617A is 60mA so all are well within this.

## Pullups



### London Hackspace

Sheet: /Power/

File: Power.sch

### Title: ACNode Nucleo-144 Overlay

Size: A4

Date: 2020-11-28

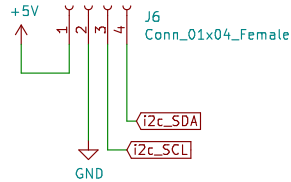
Rev: 1

KiCad E.D.A. kicad 5.1.6-1.fc32

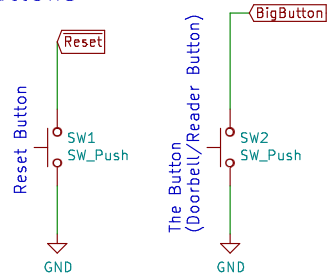
Id: 3/4

Display

0.96" OLED I2C Display  
Displays system status, making maintenance  
and debugging easier



Buttons



London Hackspace

Sheet: /UserIO/

File: UserIO.sch

Title: ACNode Nucleo-144 Overlay

Size: A4 Date: 2020-11-28

KiCad E.D.A. kicad 5.1.6-1.fc32

Rev: 1

Id: 4/4