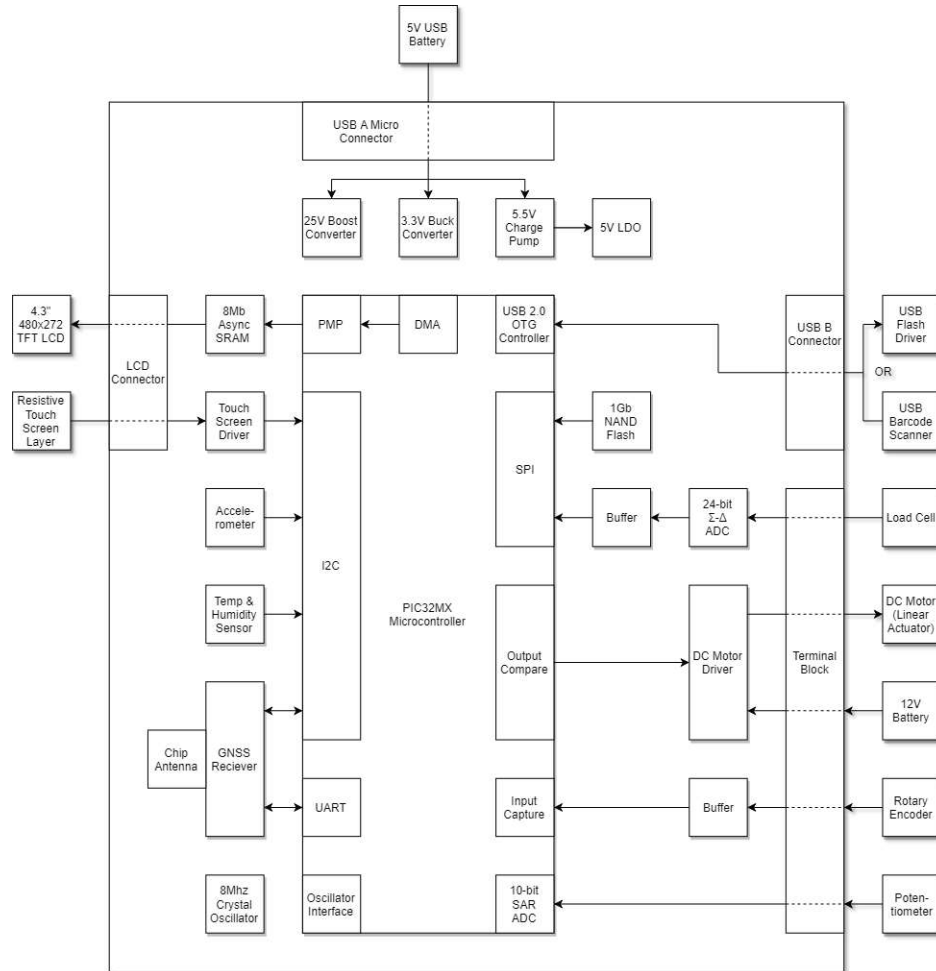


## System Block Diagram



## List of Schematic Sheets

Sheet: Microcontroller



File: croptop\_mcu.sch

Sheet: Display



File: croptop\_lcd.sch

Sheet: Onboard Peripherals



File: croptop\_onboard.sch

Sheet: IO Peripherals



File: croptop\_io.sch

Sheet: Power Supply



File: croptop\_psu.sch

List of things to do:  
 Remove electrolytic input on DC motor driver  
 Change AVDD to 5V0\_REG, DVDD to 3V3  
 Change nets to have directions  
 Remove global nets on power  
 Add missing pullups and pulldowns on temp/memory  
 Space out components more, use a bigger board  
 Consider 0603 resistors/caps  
 Check regulators can carry high current  
 Move far end of  
 Move micro usb and lcd connector further forward

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Sheet: /

File: croptop.sch

**Title: CropTop**

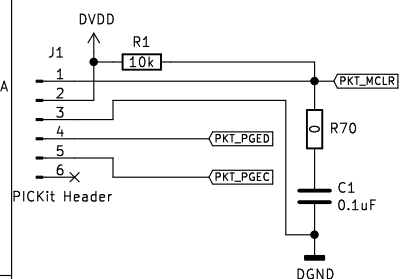
Size: USLetter Date: 2018-11-20

KiCad E.D.A. kicad (5.0.1)-3

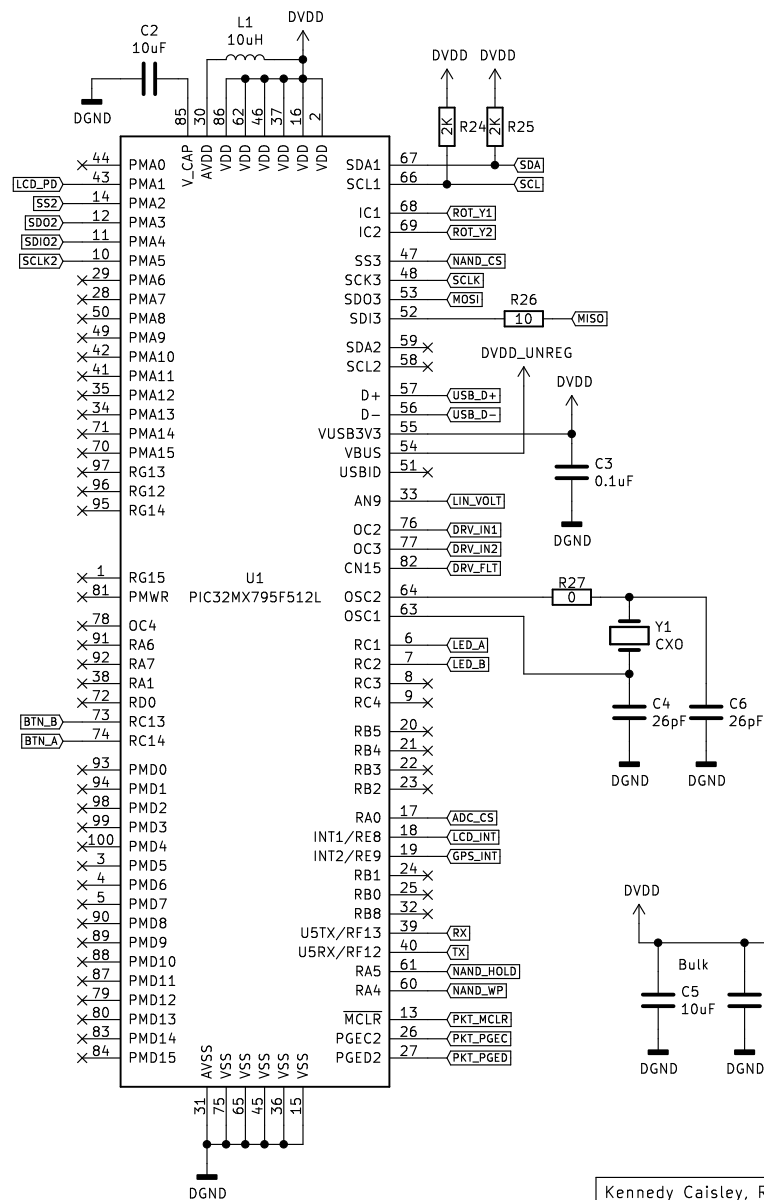
**Rev: Revision 8**

Id: 1/6

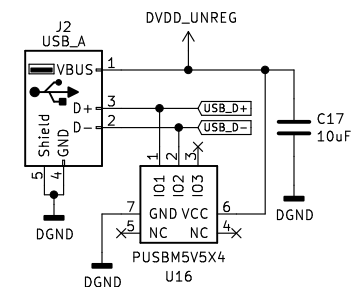
## PICKit3 Header



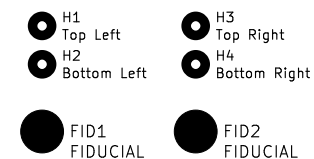
## PIC32 Microcontroller



## Peripheral USB Port



## Mounting Holes & Fiducials



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Sheet: /Microcontroller/  
File: croptop\_mcu.sch

**Title: CropTop**

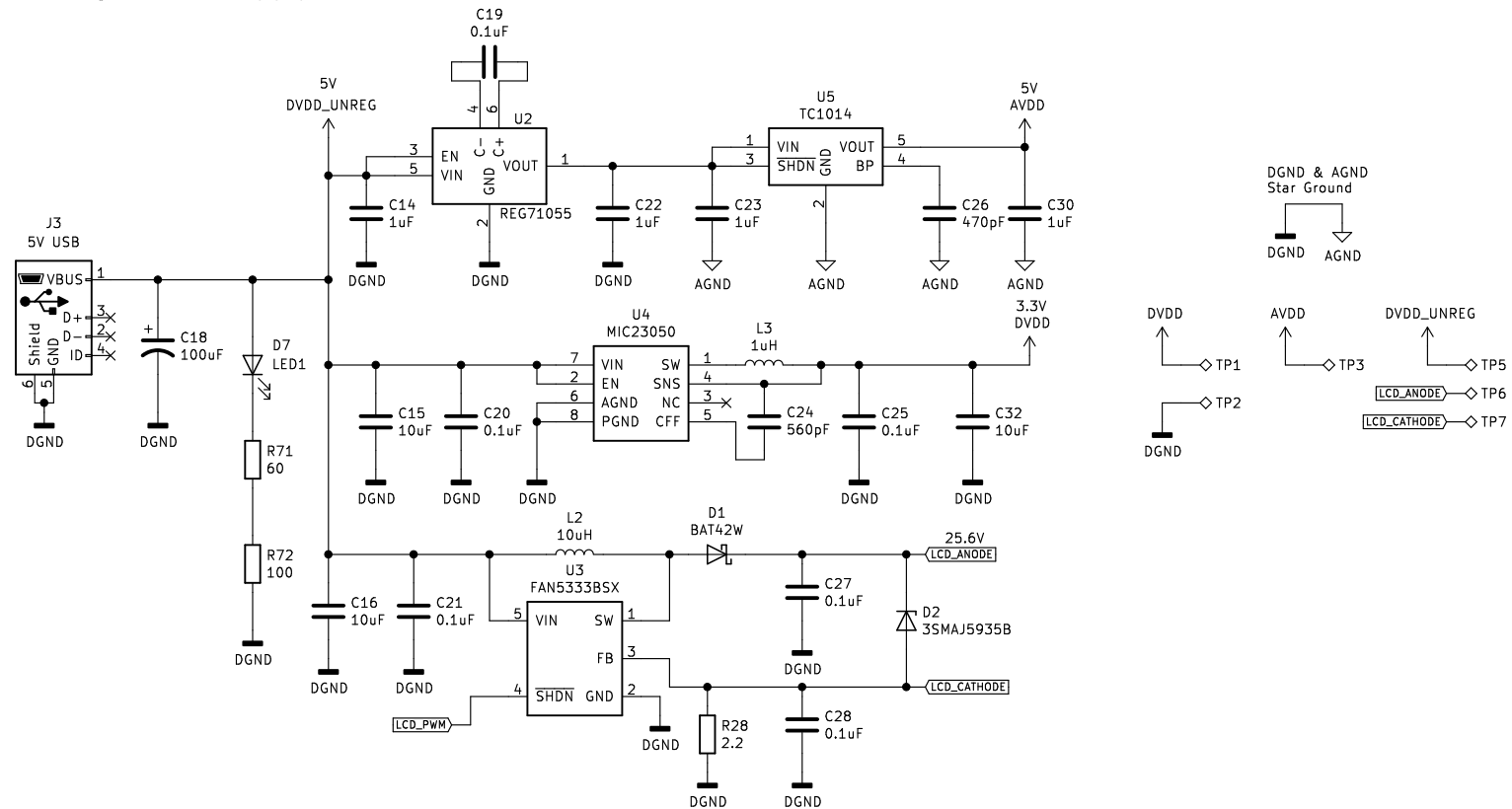
Size: USLetter Date: 2018-11-20

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**Rev: Revision 8**

Id: 2/6

## Digital & Analog Power Supply



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Sheet: /Power Supply/  
File: croptop\_psu.sch

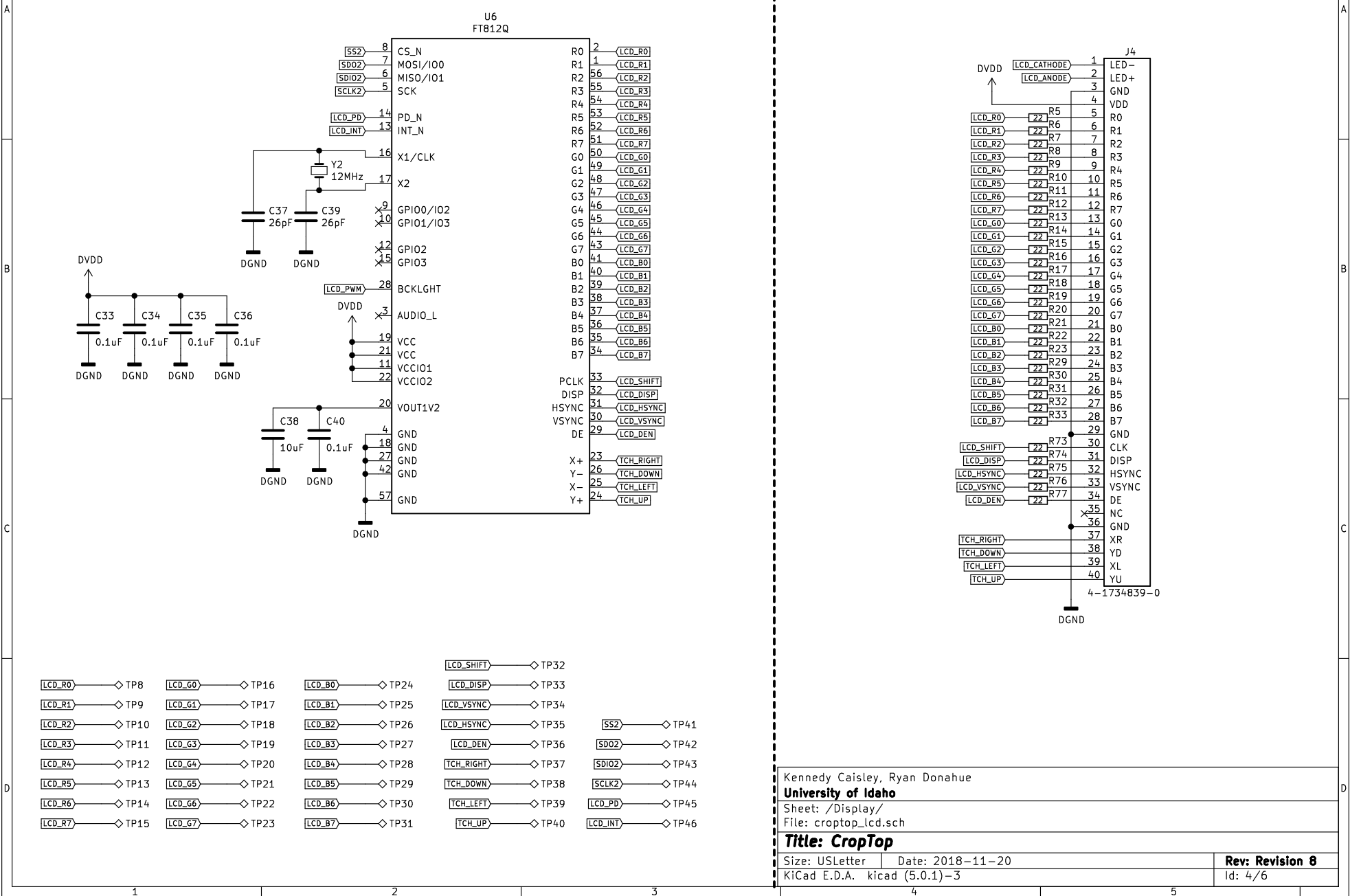
**Title:** CropTop

Size: USLetter	Date: 2018-11-20
KiCad E.D.A. kicad (5.0.1)-3	

<b>Rev: Revision 8</b>
Id: 3/6

# Graphics Controller

# FCP Connector for TFT LCD



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Sheet: /Display/

File: croptop\_lcd.sch

**Title: CropTop**

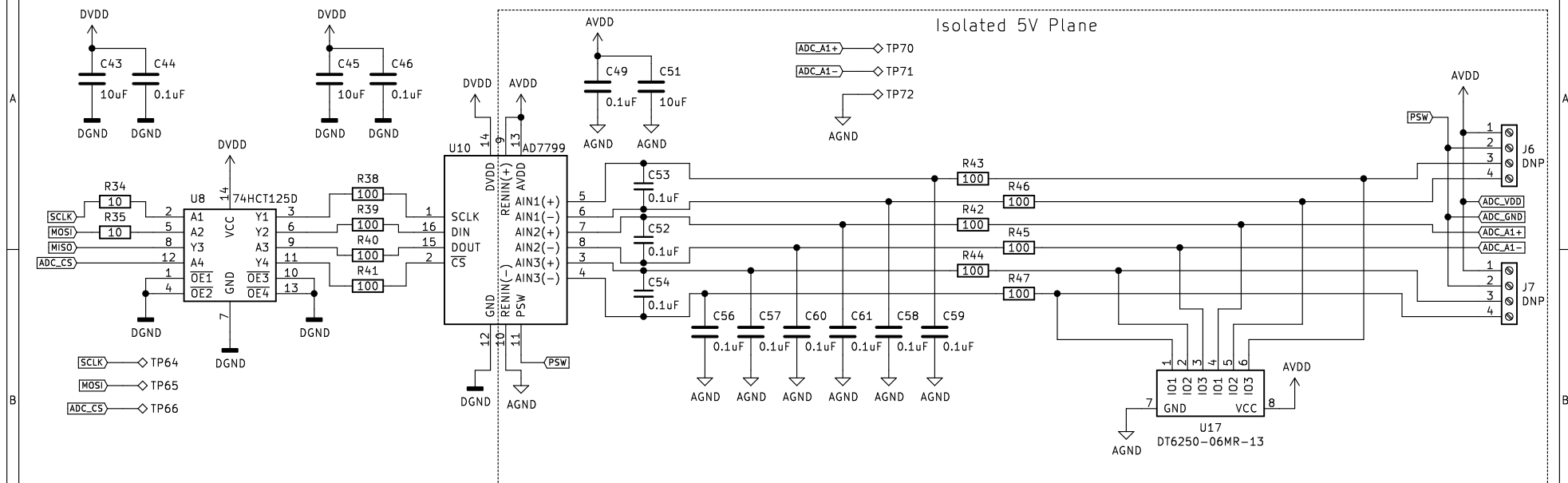
Size: USLetter Date: 2018-11-20

KiCad E.D.A. kicad (5.0.1)-3

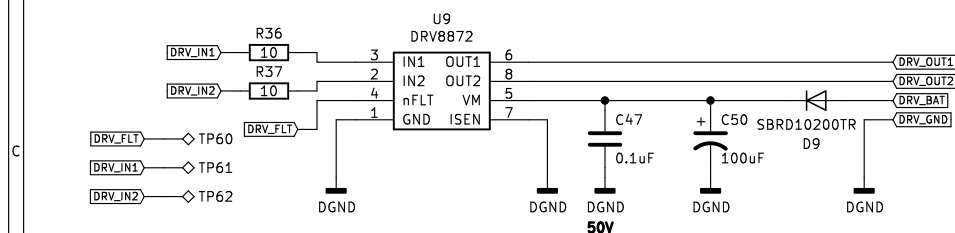
**Rev: Revision 8**

Id: 4/6

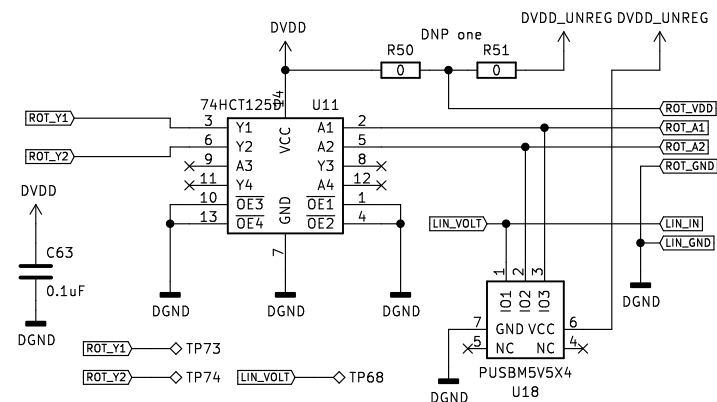
## Force Sensor Interface w/ ADC and Buffer



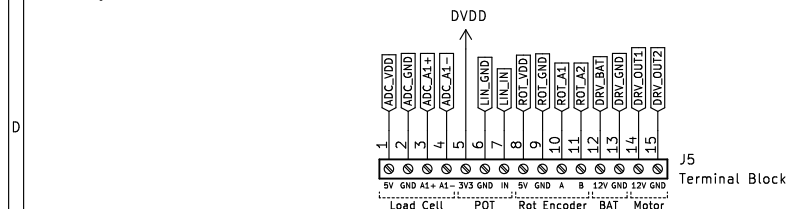
## Linear Actuator Interface w/ DC Motor Driver



## Linear and Rotary Encoder Interface



## Peripheral Terminal Block



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Sheet: /IO Peripherals/

File: croptop\_io.sch

**Title: CropTop**

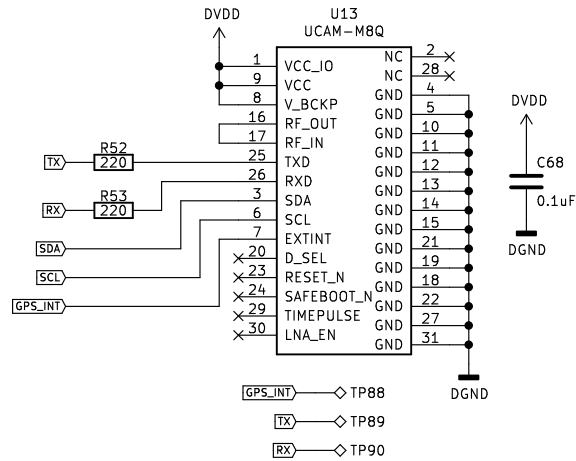
Size: USLetter Date: 2018-11-20

KiCad E.D.A. kicad (5.0.1)-3

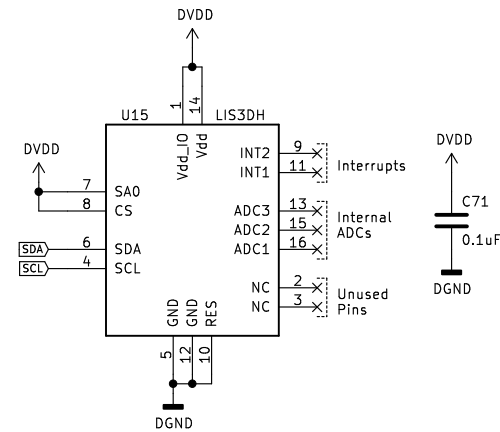
**Rev: Revision 8**

Id: 5/6

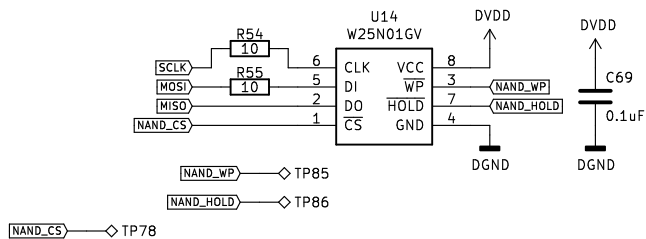
## GPS Antenna and Reciever



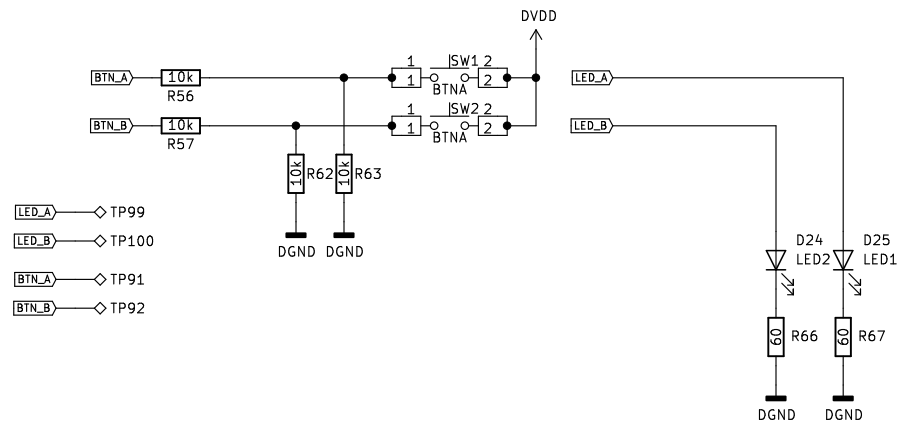
## Three Axis Accelerometer



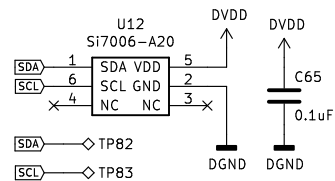
## NAND Flash Memory



## Debugging Buttons and LEDs



## Temperature & Humidity Sensor



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Sheet: /Onboard Peripherals/  
File: croptop\_onboard.sch

**Title: CropTop**

Size: USLetter Date: 2018-11-20  
KiCad E.D.A. kicad (5.0.1)-3

**Rev: Revision 8**  
Id: 6/6