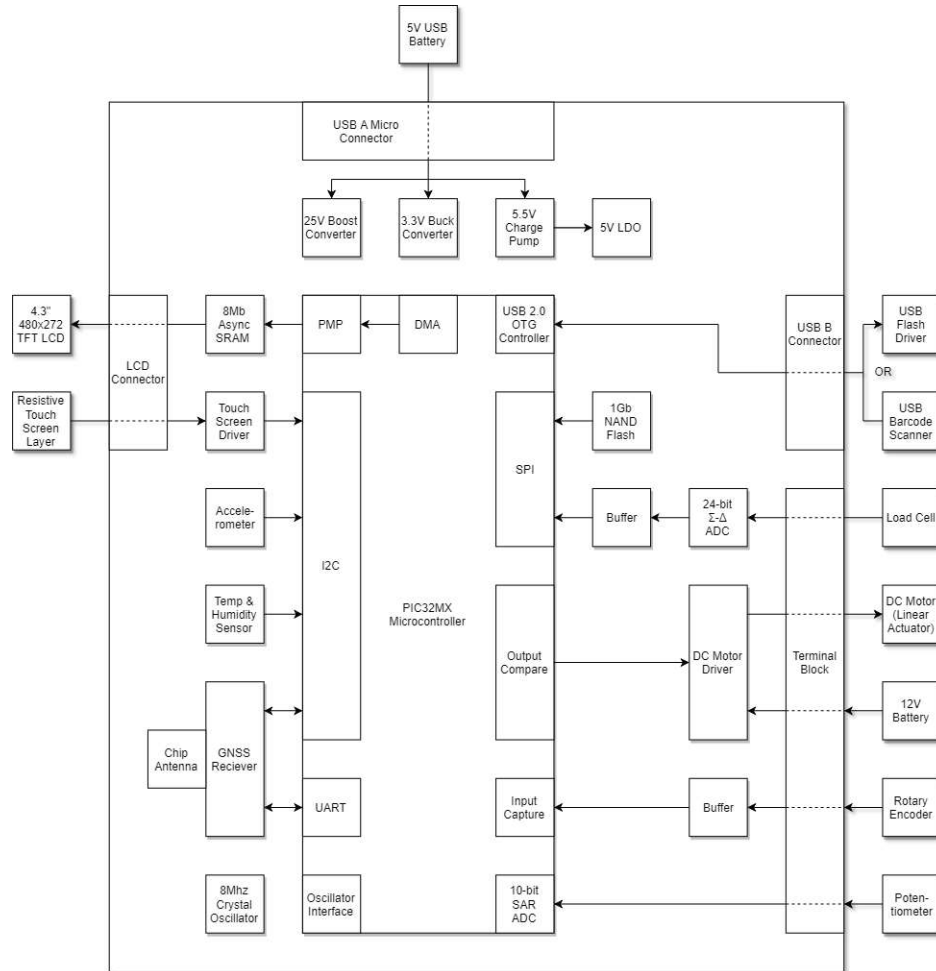


## System Block Diagram



## List of Schematic Sheets

Sheet: Microcontroller



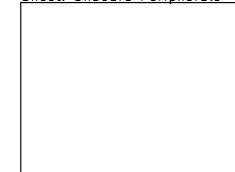
File: croptop\_mcu.sch

Sheet: Display



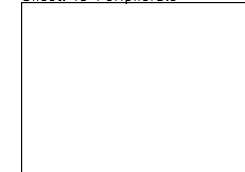
File: croptop\_lcd.sch

Sheet: Onboard Peripherals



File: croptop\_onboard.sch

Sheet: IO Peripherals



File: croptop\_io.sch

Sheet: Power Supply



File: croptop\_psu.sch

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Sheet: /

File: croptop.sch

**Title: CropTop**

Size: USLetter Date: 2018-11-20

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**PICKit3 Header**

**PIC32 Microcontroller**

**Peripheral USB Port**

**Mounting Holes & Fiducials**

Component	Value
R1	10k
R68	10
R69	10
R70	0.1uF
C1	0.1uF
C2	10uF
L1	10uH
R21	10
R18	10
R22	10
R19	10
R23	10
R20	10
R2	10
R10	10
R3	10
R11	10
R4	10
R12	10
R5	10
R13	10
R6	10
R14	10
R7	10
R15	10
R8	10
R16	10
R9	10
R17	10
C3	0.1uF
C4	26pF
C6	26pF
C5	10uF
C7	0.1uF
C8	0.1uF
C9	0.1uF
C10	0.1uF
C11	0.1uF
C12	0.1uF
C13	0.1uF

**Component Values Table:**

Pin	Value
Pin 2	0.1uF
Pin 16	0.1uF
Pin 30	0.1uF
Pin 37	0.1uF
Pin 46	0.1uF
Pin 62	0.1uF
Pin 75	0.1uF

**Title Block:**

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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

## PIC32 Microcontroller

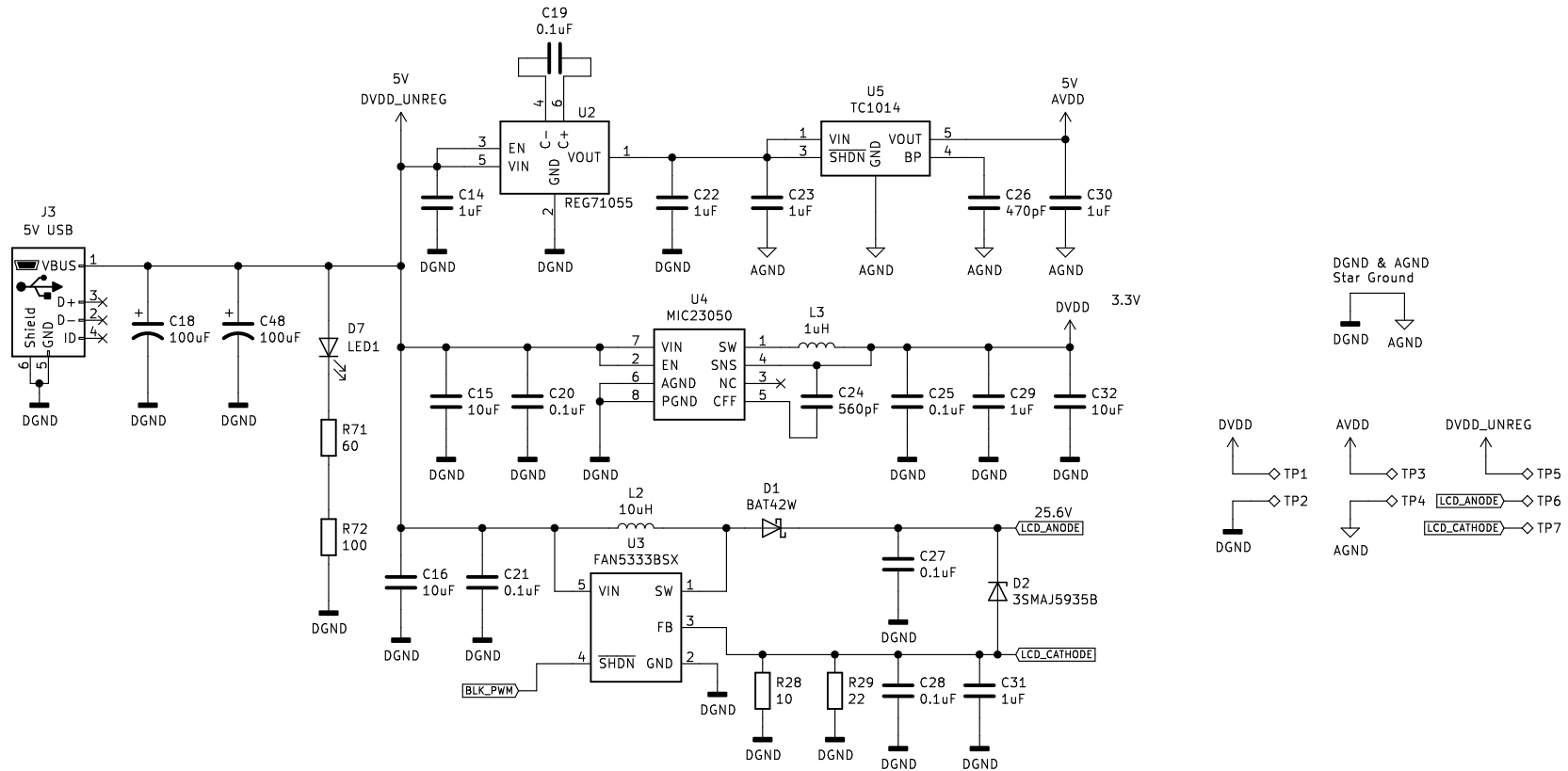
### Peripheral USB Port

## Mounting Holes & Fiducials

- 
- H1  
Top Left
- H2  
Bottom Left
- H3  
Top Right
- H4  
Bottom Right
- FID1  
FIDUCIAL
- FID2  
FIDUCIAL

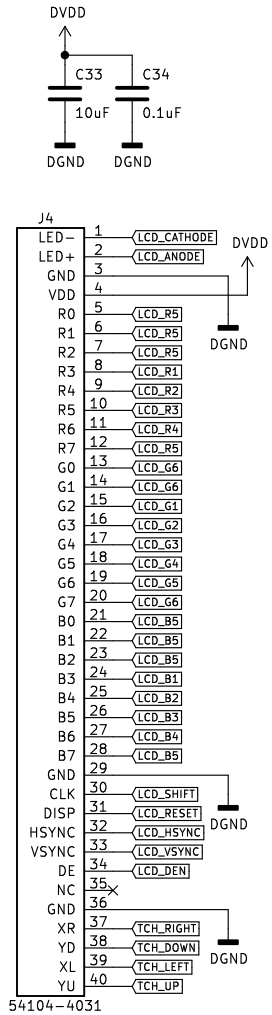
<b>Rev: Revision 8</b>
Id: 2/6

## Digital & Analog Power Supply



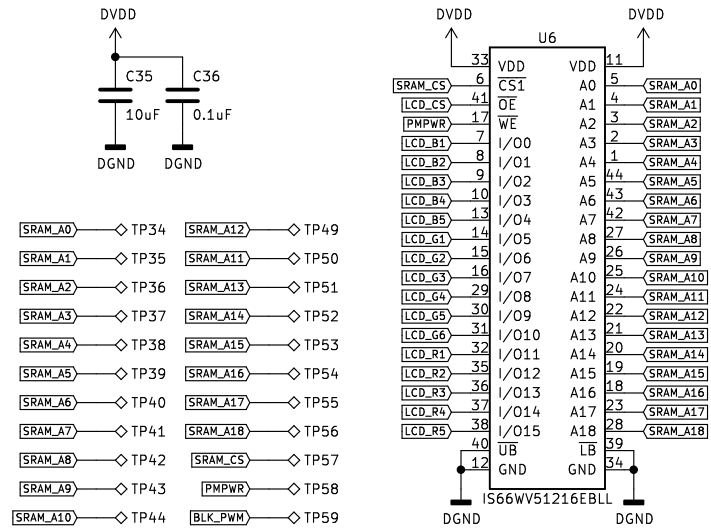
<b>Rev: Revision 8</b>
Id: 3/6

## TFT LCD Header

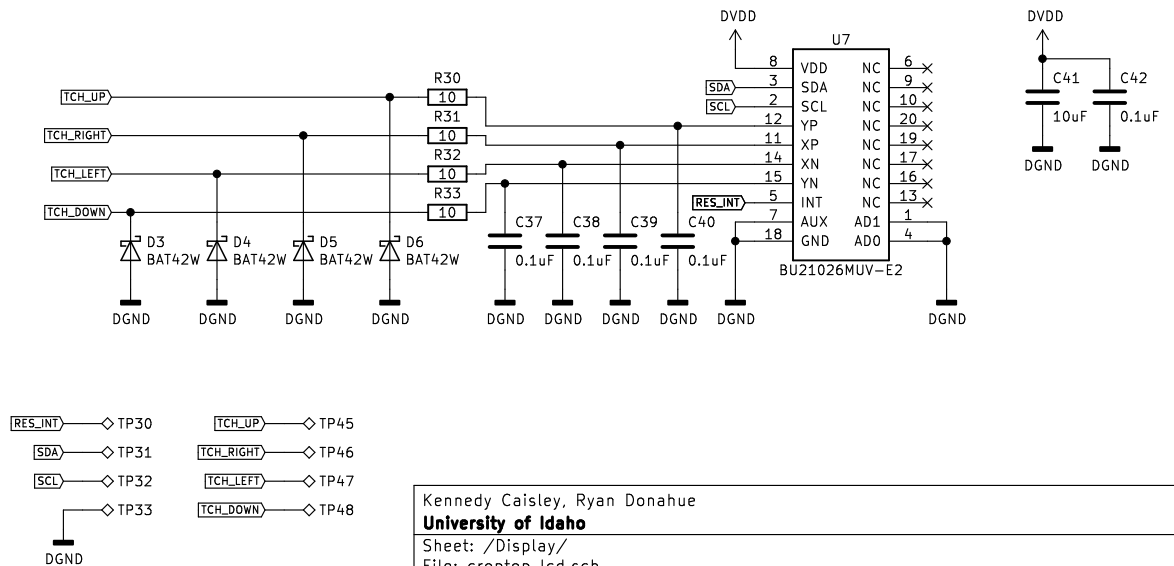


LCD_B1	TP8	LCD_G4	TP16	LCD_HSYNC	TP24
LCD_B2	TP9	LCD_G5	TP17	LCD_VSYNC	TP25
LCD_B3	TP10	LCD_G6	TP18	LCD_CS	TP26
LCD_B4	TP11	LCD_R1	TP19	LCD_RESET	TP27
LCD_B5	TP12	LCD_R2	TP20	LCD_SHIFT	TP28
LCD_G1	TP13	LCD_R3	TP21	LCD_DEN	TP29
LCD_G2	TP14	LCD_R4	TP22		
LCD_G3	TP15	LCD_R5	TP23		

## Asynchronous SRAM



## Resistive Touch Driver



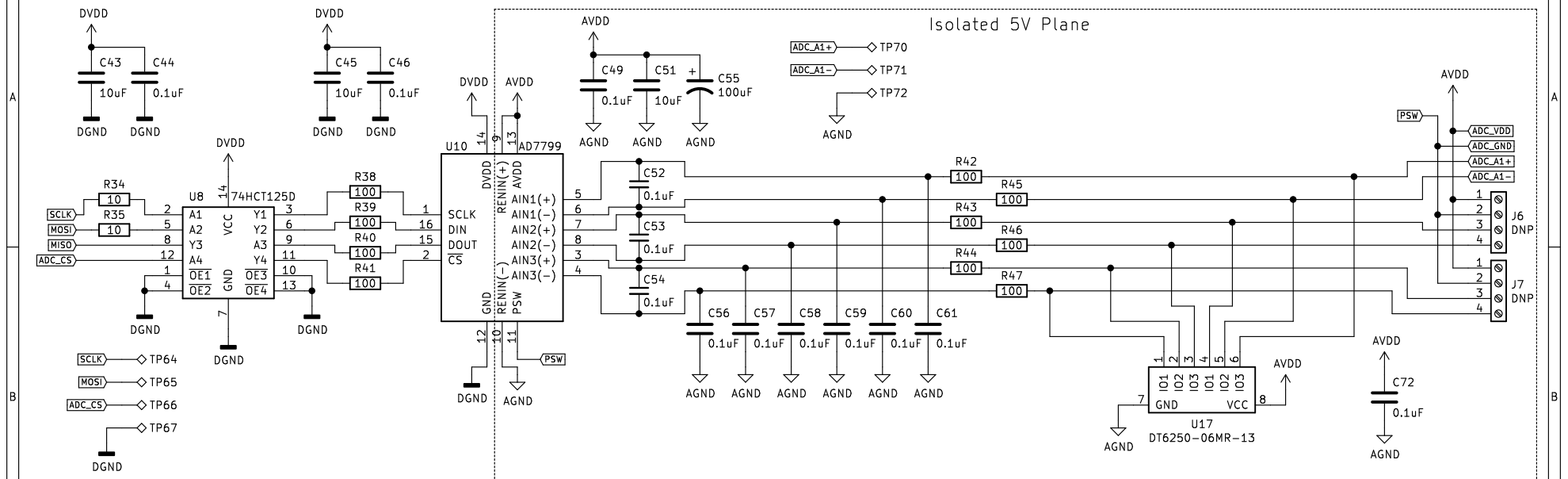
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 Sheet: /Display/  
 File: croptop\_lcd.sch

### Title: CropTop

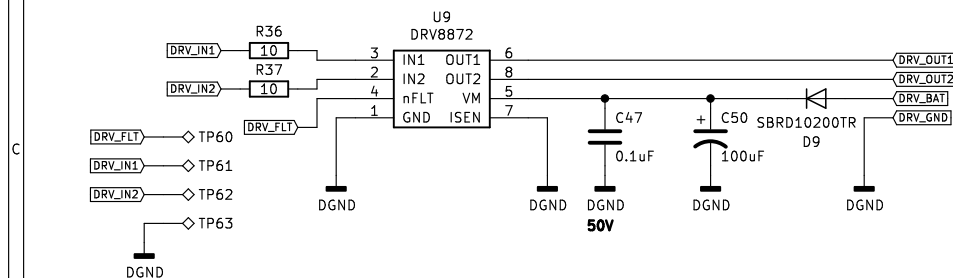
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 Id: 4/6

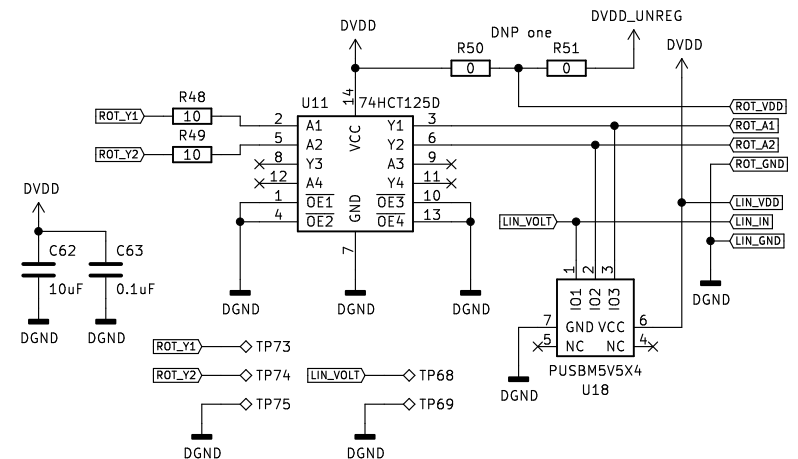
## Force Sensor Interface w/ ADC and Buffer



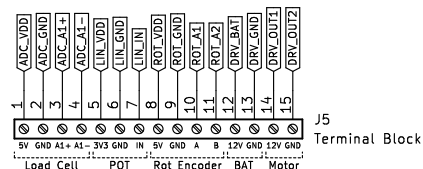
## Linear Actuator Interface w/ DC Motor Driver



## Linear and Rotary Encoder Interface



## Peripheral Terminal Block



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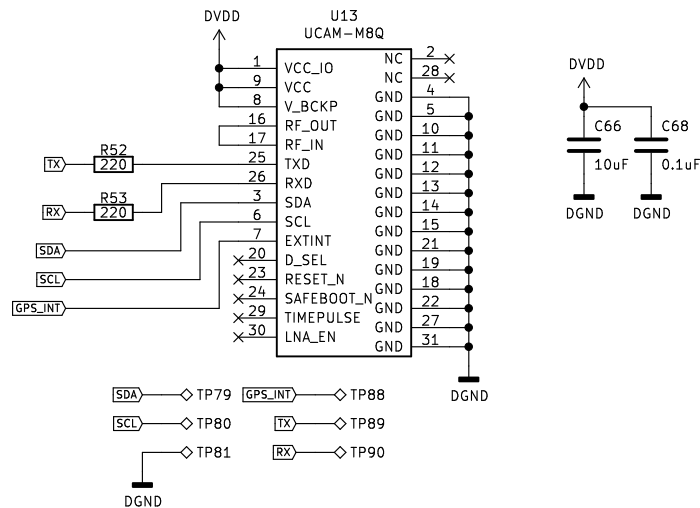
Sheet: /10 Peripherals/  
File: croptop\_io.sch

**Title: CropTop**

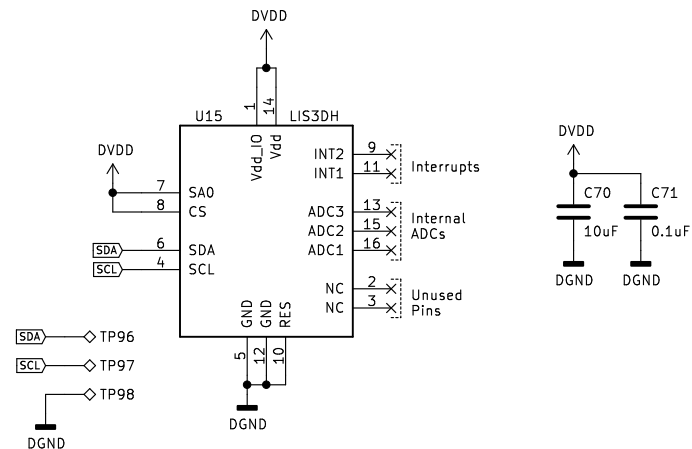
Size: USLetter	Date: 2018-11-20
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**Rev: Revision 8**  
Id: 5/6

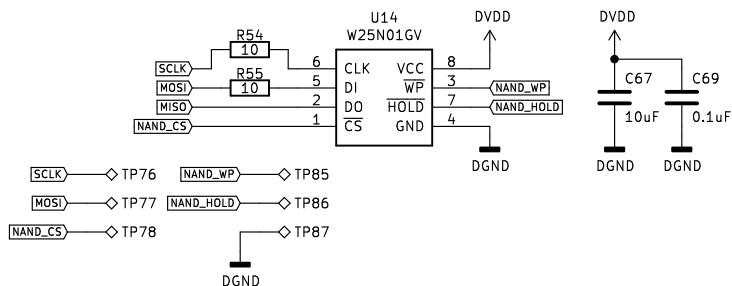
## GPS Antenna and Receiver



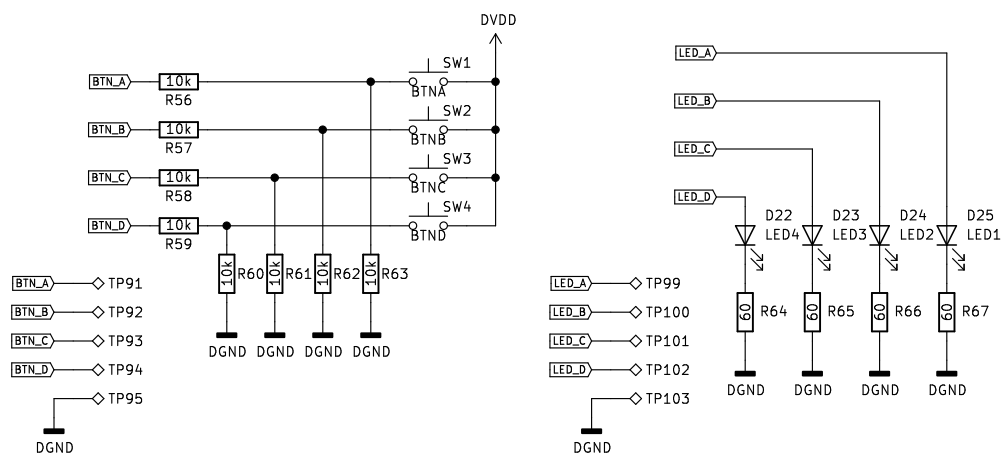
## Three Axis Accelerometer



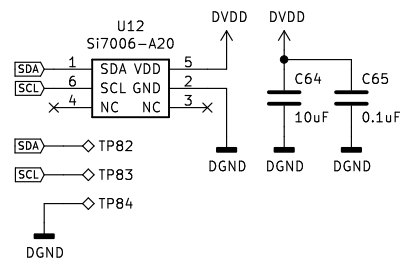
## NAND Flash Memory



## Debugging Buttons and LEDs



## Temperature & Humidity Sensor



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

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Id: 6/6