
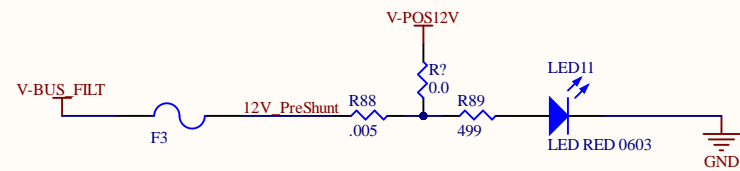



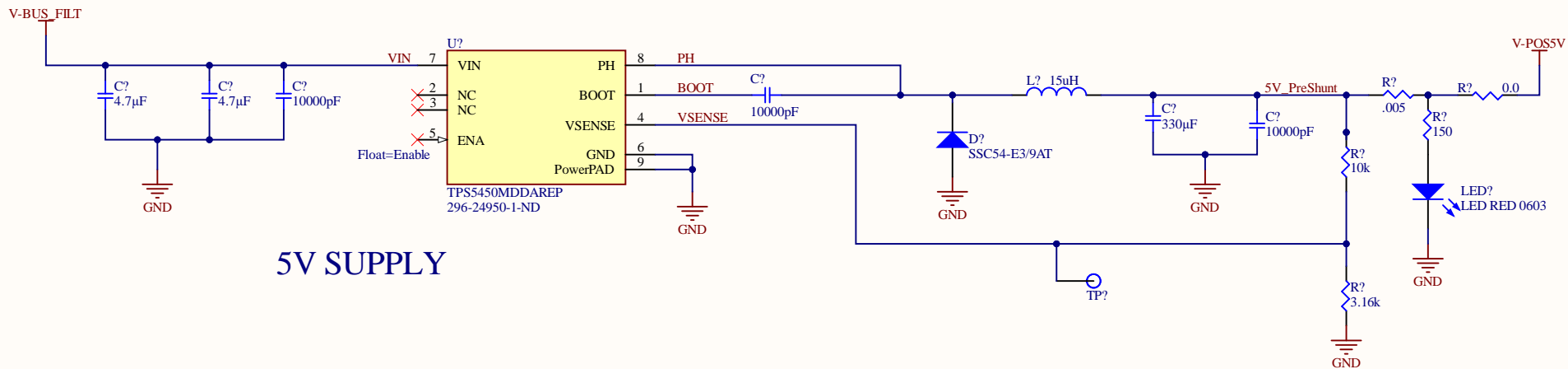
MAIN IO  
SOLAR CAR 1  
REV C

Title <i>Main IO</i>		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706		
Engineer:		Revision:		
Date: 4/20/2023	Time: 11:55:04 AM	Sheet 1 of 2		
File: main_io.SchDoc				



Placeholder until it is determined whether we need to regulate to 12V

Title <b>12V Power</b>		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706	
Engineer: <b>McGregor Farah</b>	Revision: <b>A</b>		
Date: <b>4/20/2023</b>	Time: <b>11:55:03 AM</b>		
File: <b>power_12V.SchDoc</b>		Sheet <b>1</b> of <b>1</b>	



Title <b>5V Power</b>		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706	
Engineer: <b>McGregor Farah</b>	Revision: <b>A</b>	<div> <div></div> <div><b>BADGER</b></div> <div><b>LOOP</b></div> </div>	
Date: <b>4/20/2023</b>	Time: <b>11:55:03 AM</b>		
File: <b>power_5V.SchDoc</b>		Sheet <b>1</b> of <b>1</b>	

1

2

3

4

A

A

B

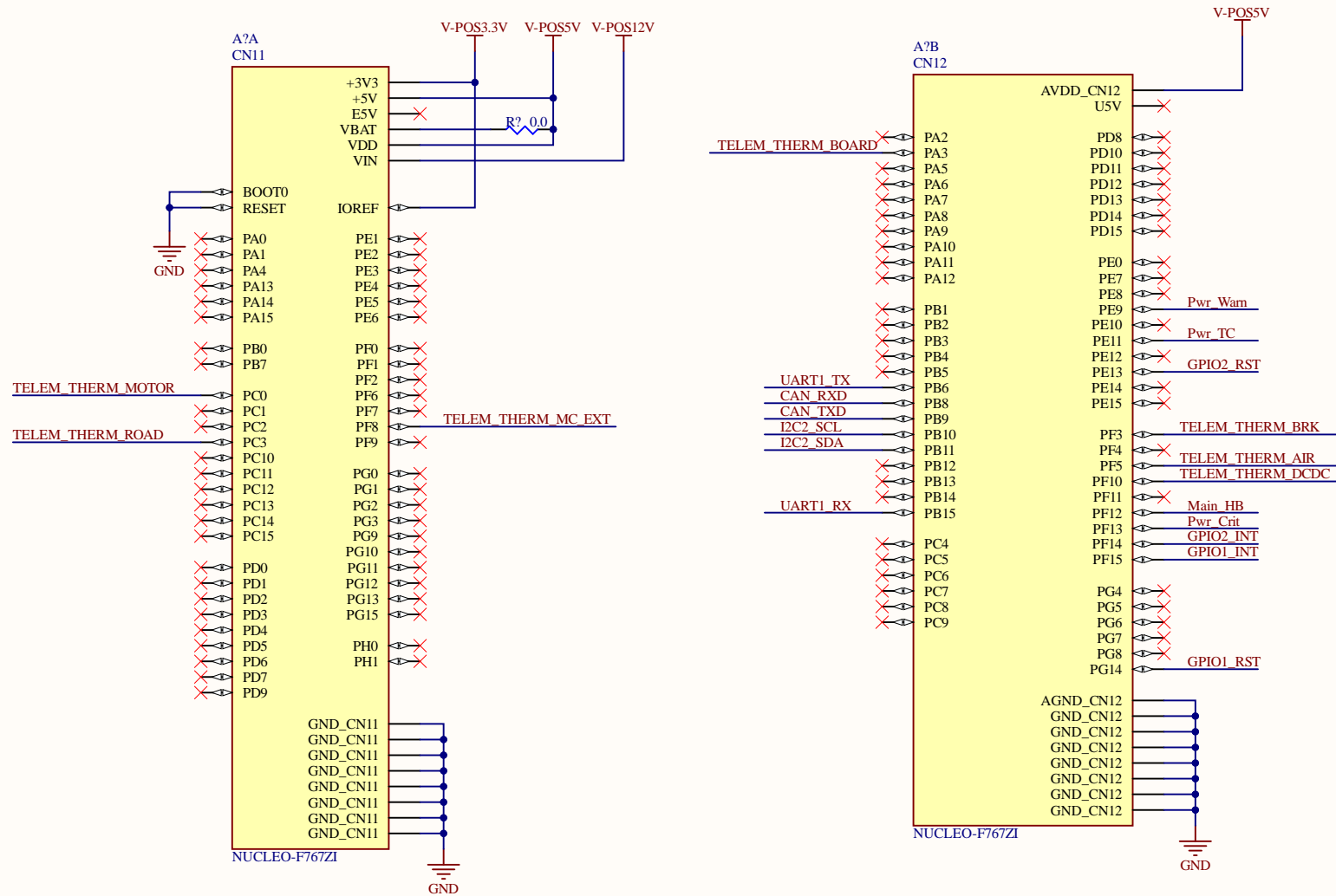
B

C

C

D

D



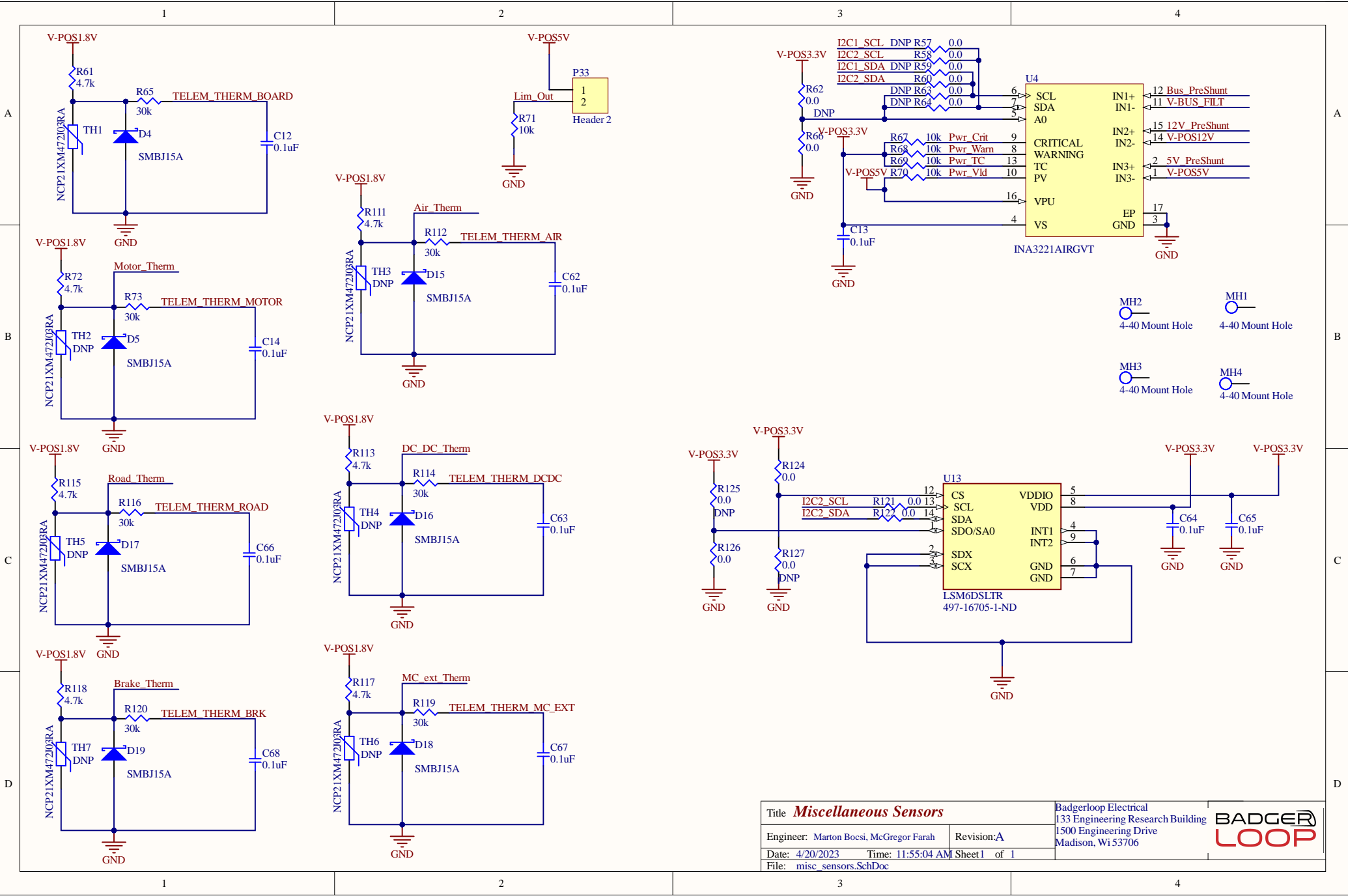
Title <b>Beaglebone Black Interface</b>		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706	
Engineer: <b>McGregorFarah</b>	Revision: <b>A</b>	BADGER LOOP	
Date: <b>4/20/2023</b>	Time: <b>11:55:03 AM</b>		
File: <b>nucleo.SchDoc</b>		Sheet 1 of 1	

1

2

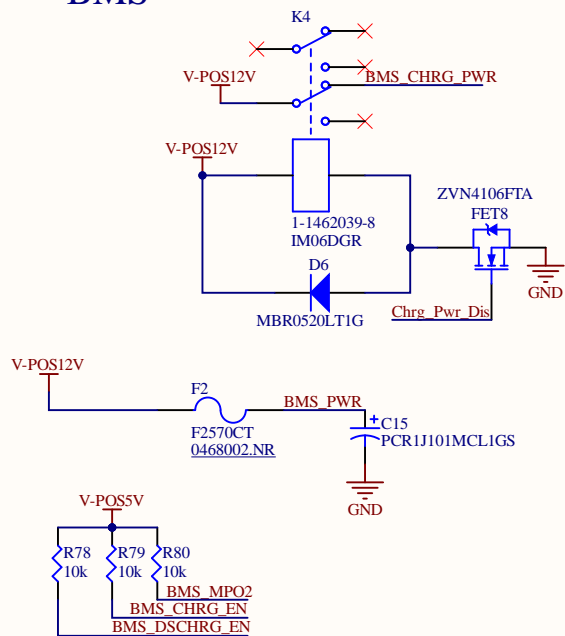
3

4

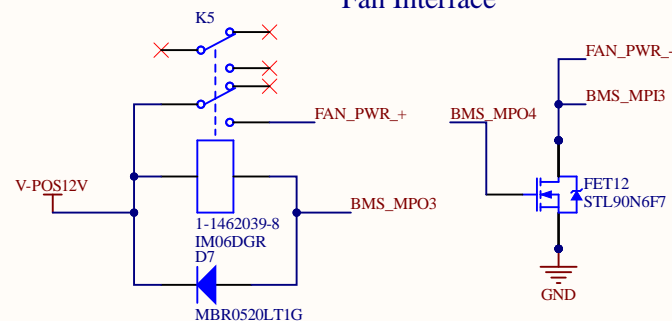


Title <b>Miscellaneous Sensors</b>		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706	
Engineer: Marton Bocsi, McGregor Farah	Revision: A	Sheet 1 of 1	
Date: 4/20/2023	Time: 11:55:04 AM		
File: misc_sensors.SchDoc		<b>BADGER LOOP</b>	

# BMS

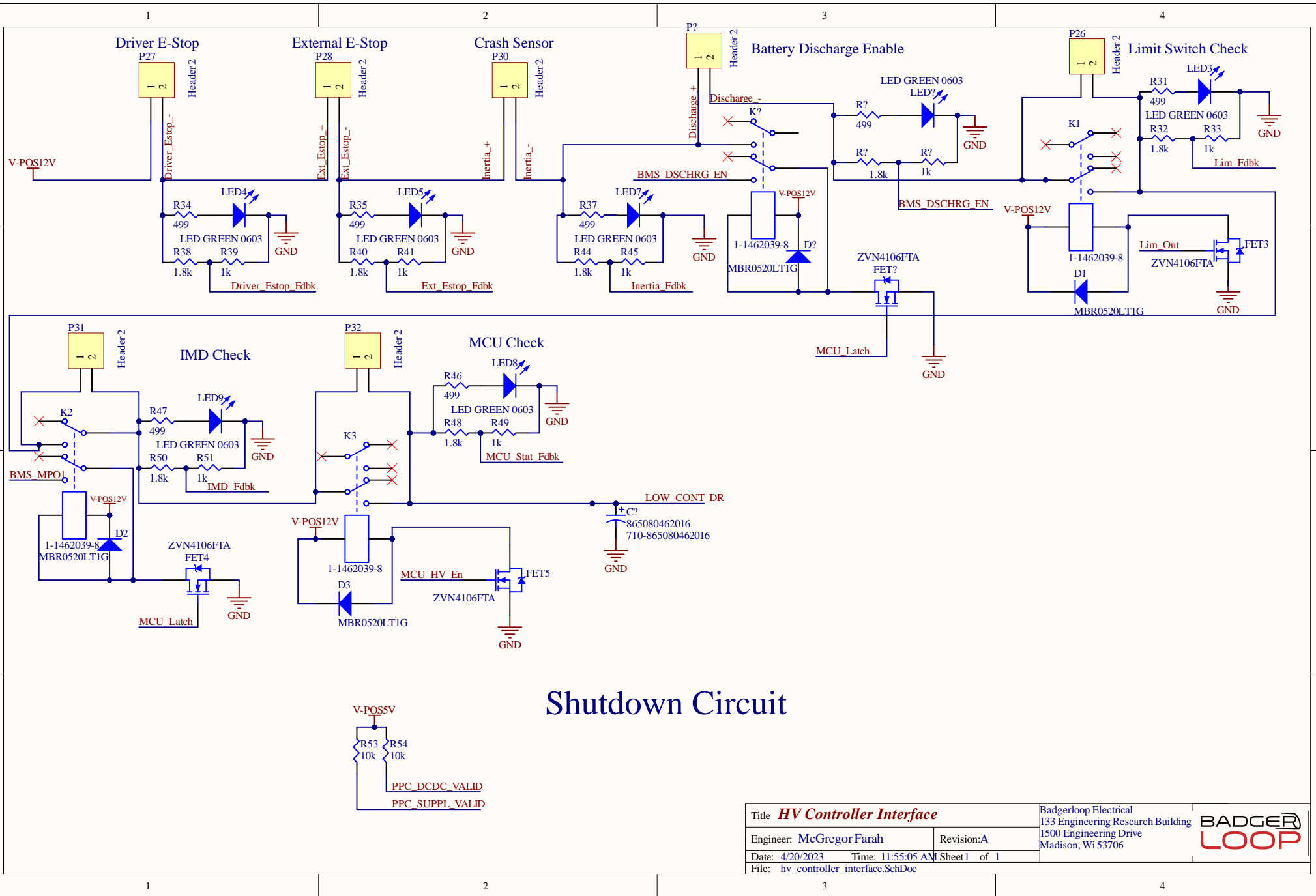


# Fan Interface

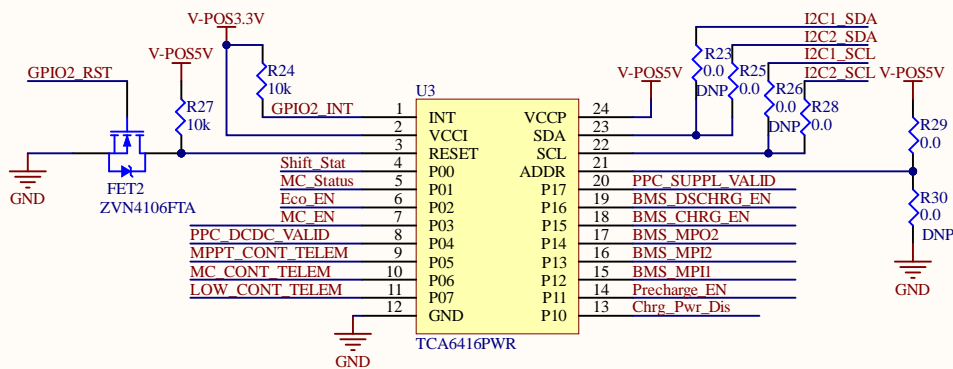
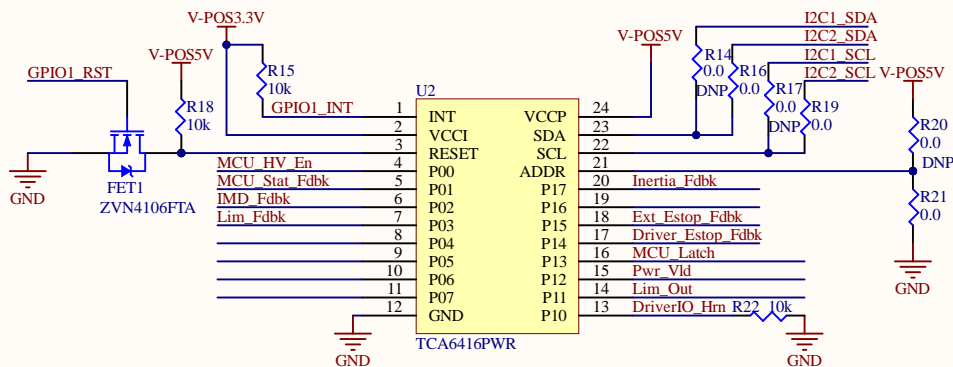



Title <b>Motor Controller/BMS Interface</b>		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706	
Engineer: M. Farah, A. Marshall, O. D'Souza	Revision: A	Sheet 1 of 1	
Date: 4/20/2023	Time: 11:55:04 AM		
File: mc_bms_interface.SchDoc			





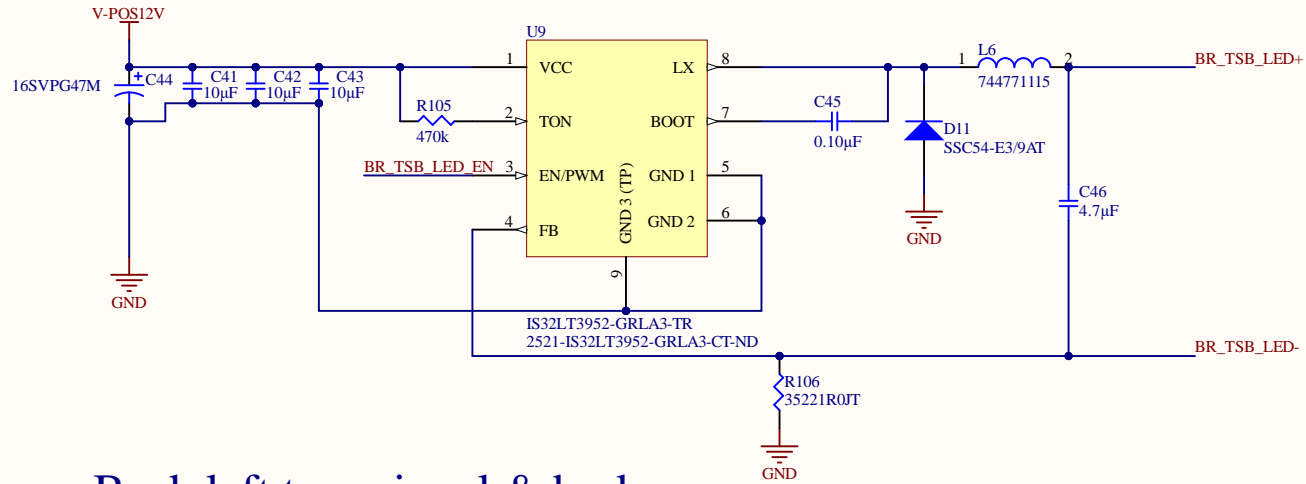
Title <b>HV Controller Interface</b>		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706	
Engineer: <b>McGregor Farah</b>	Revision: <b>A</b>	<div style="display: flex; align-items: center;"> </div>	
Date: <b>4/20/2023</b>	Time: <b>11:55:05 AM</b>		
File: <b>hv_controller_interface.SchDoc</b>		Sheet 1 of 1	



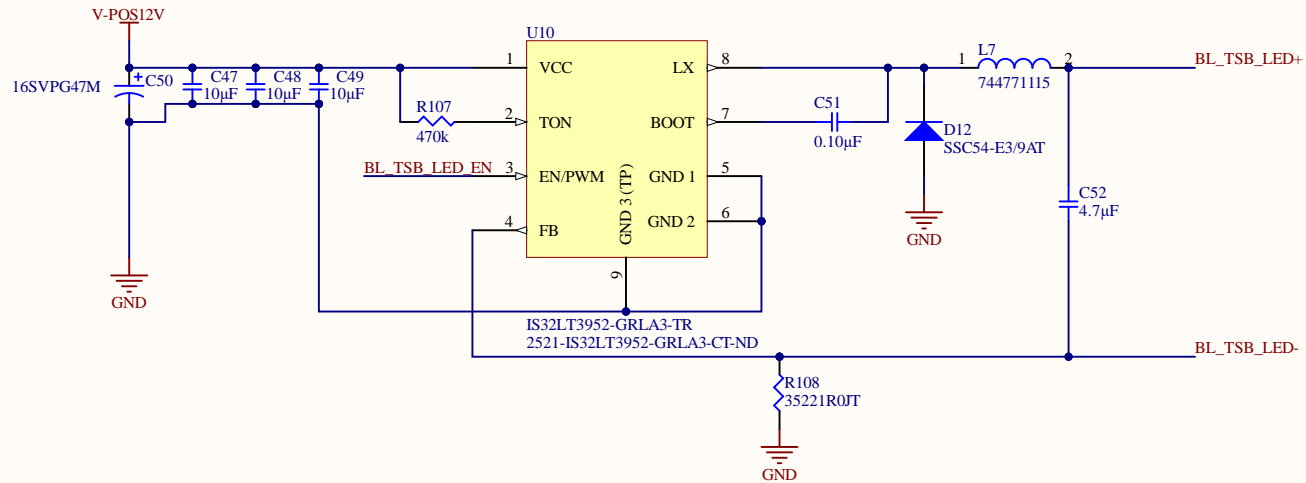
Title: <b>GPIO</b>		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706	
Engineer: <b>McGregor Farah</b>	Revision: <b>A</b>		
Date: <b>4/20/2023</b>	Time: <b>11:55:05 AM</b>		
File: <b>gpio.SchDoc</b>	Sheet <b>1</b> of <b>1</b>		



## Back right turn signal & brake



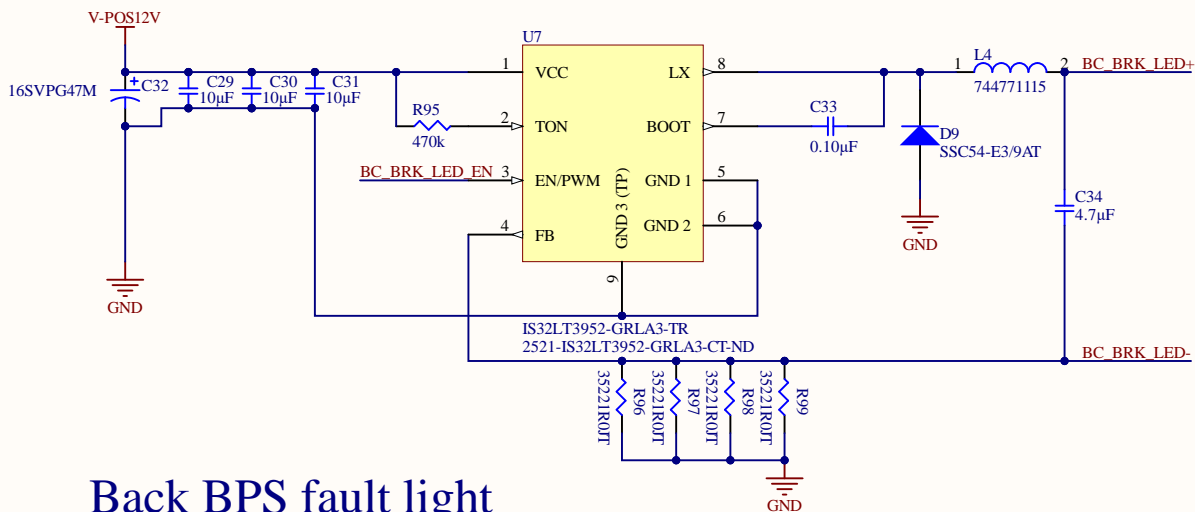
## Back left turn signal & brake



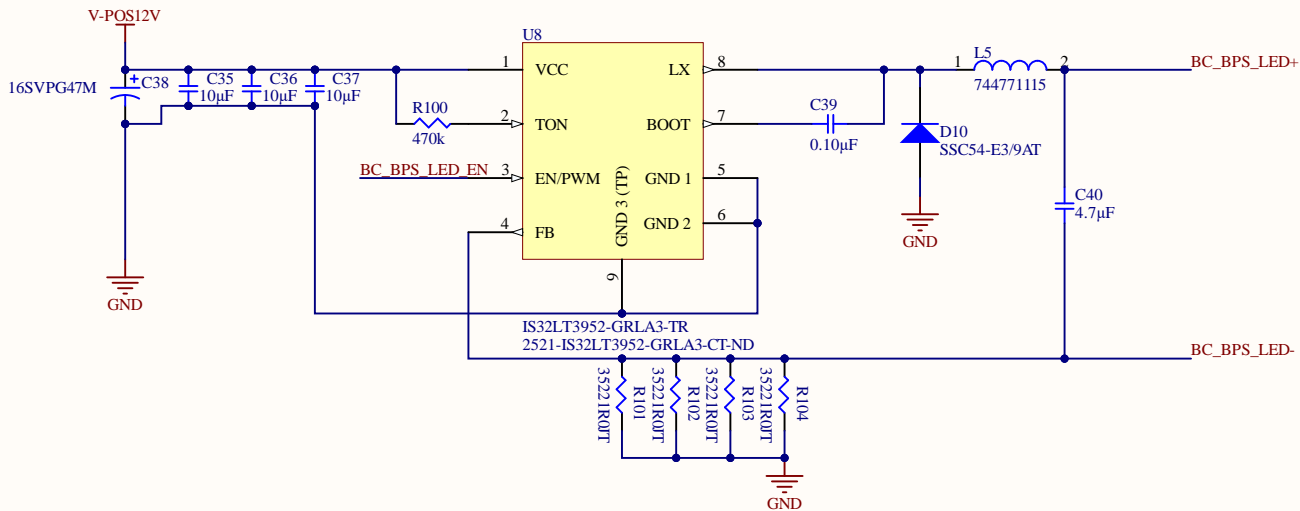
Title <i><b>Rear Blinker Interface</b></i>		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706		
Engineer: <b>Alec Marshall</b>	Revision: <b>A</b>			
Date: <b>4/20/2023</b>	Time: <b>11:55:05 AM</b>			
File: <b>ext_light_interface_backturn.SchDoc</b>				


**BADGER  
LOOP**

Back center brake light

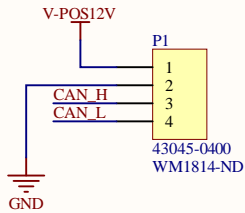


Back BPS fault light

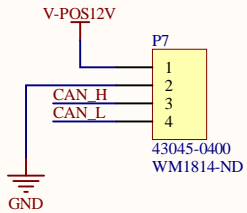


Title <b><i>Rear Center Indicator Drivers</i></b>		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706		
Engineer: <b>Alec Marshall</b>	Revision: <b>A</b>			
Date: <b>4/20/2023</b>	Time: <b>11:55:06 AM</b>	Sheet <b>1</b> of <b>1</b>		
File: <b>ext_light_interface_backbrakebps.SchDoc</b>				

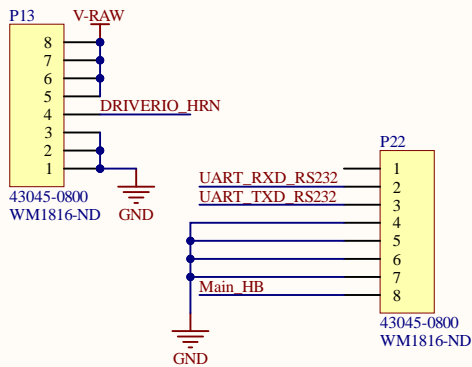
## MCC Interface



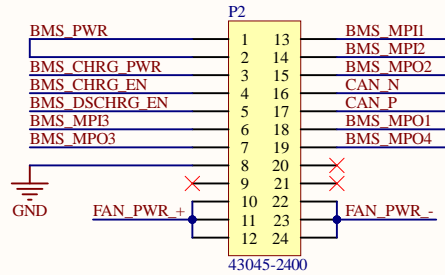
## MPPT Interface



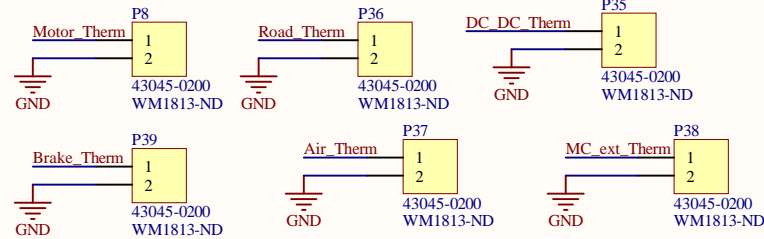
## Driver IO Interface



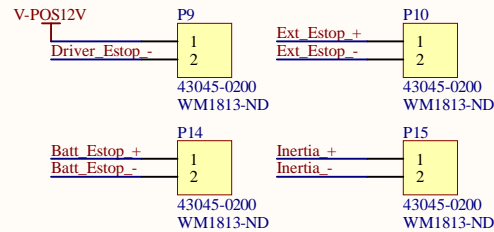
## BMS Interface



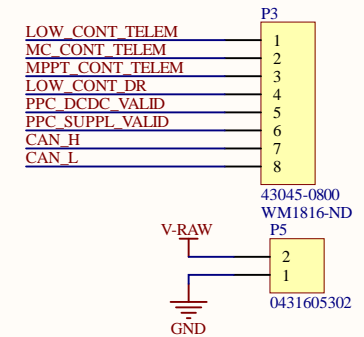
## Thermistor



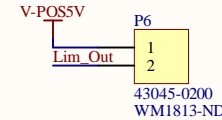
## Shutdown Inputs



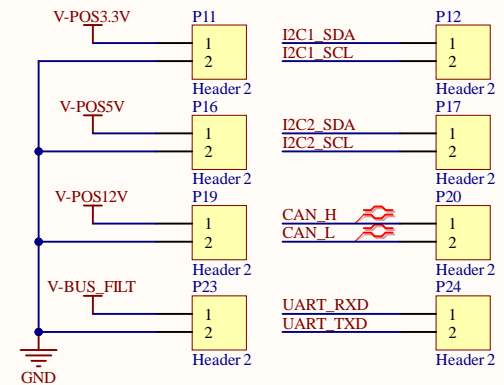
## HV Controller Interface




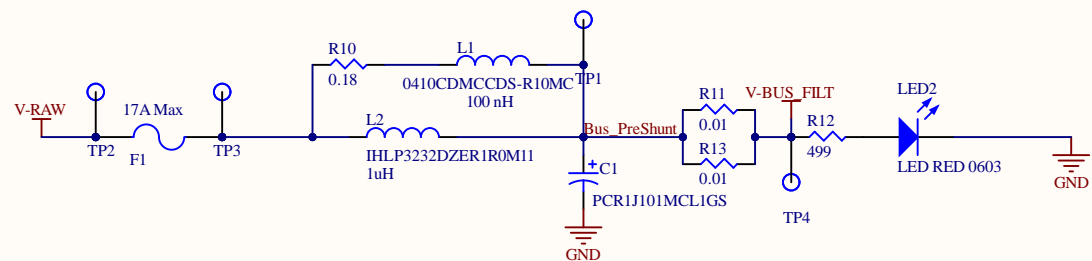
## Limit Switch




## Debug Headers



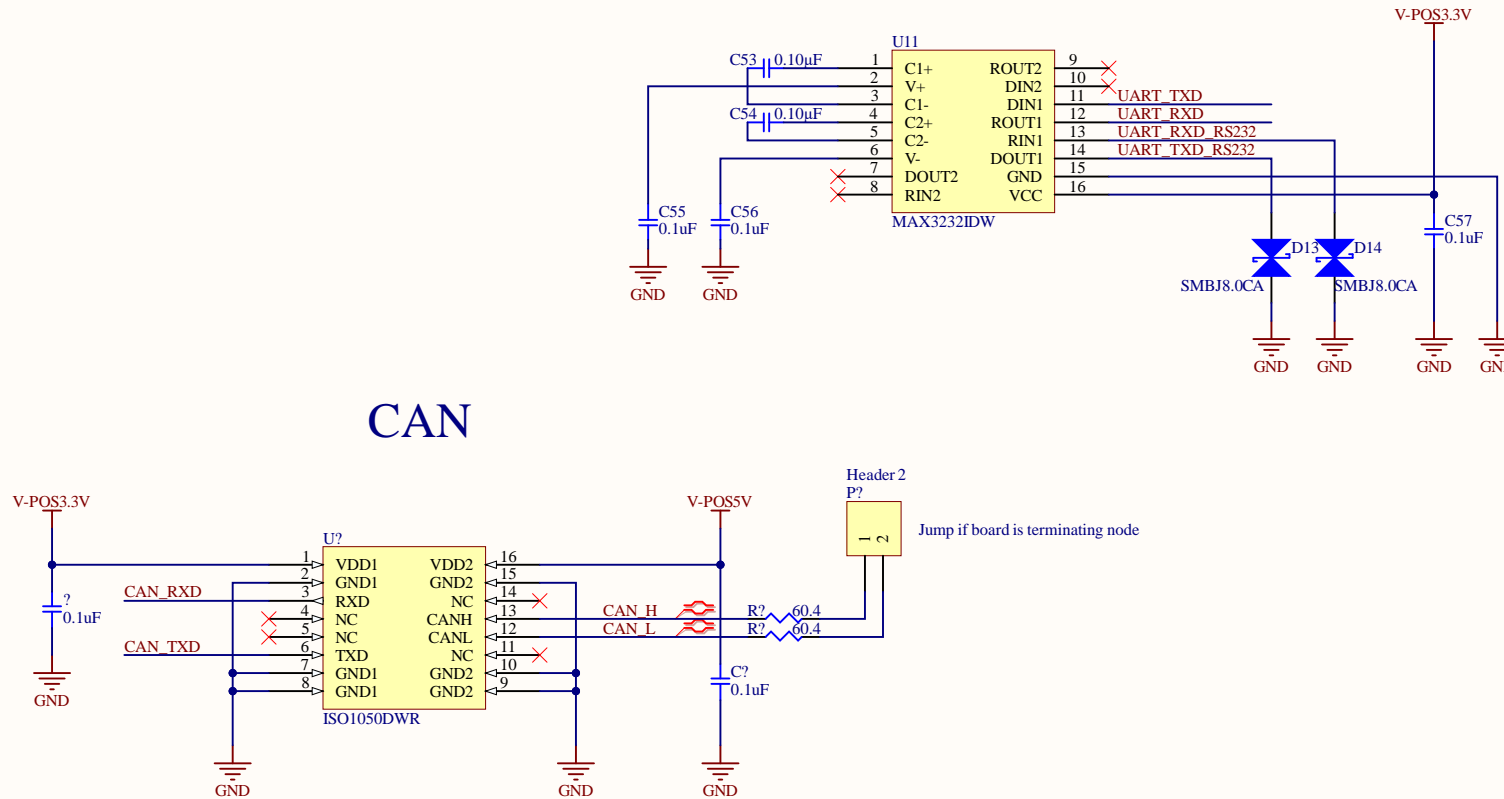
Title <b>Connectors</b>		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706	
Engineer: <b>McGregor Farah</b>	Revision: <b>A</b>		
Date: <b>4/20/2023</b>	Time: <b>11:55:06 AM</b>		
File: <b>connectors.SchDoc</b>		Sheet 1 of 1	



Title <b>Bus Filter</b>		Badgerloop Electrical 133 Engineering Research Building 1500 Engineering Drive Madison, WI 53706	
Engineer: Marton Bocsi, McGregor Farah	Revision: A		
Date: 4/20/2023	Time: 11:55:06 AM		
File: bus_filter.SchDoc		Sheet 1 of 1	

Clamping Diode Selection Reference :: [https://e2e.ti.com/blogs\\_/b/industrial\\_strength/posts/how-to-choose-a-tvs-diode-for-rs-232-rs-485-and-can-based-on-voltage-ratings](https://e2e.ti.com/blogs_/b/industrial_strength/posts/how-to-choose-a-tvs-diode-for-rs-232-rs-485-and-can-based-on-voltage-ratings)

## CAN



Title *		Badgerloop Electrical	
Engineer: *		133 Engineering Research Building	
Date: 4/20/2023		1500 Engineering Drive	
Time: 11:55:07 AM		Madison, WI 53706	
File: Serial_Interface.SchDoc		Sheet 2 of 2	

**BADGER**  
**LOOP**

