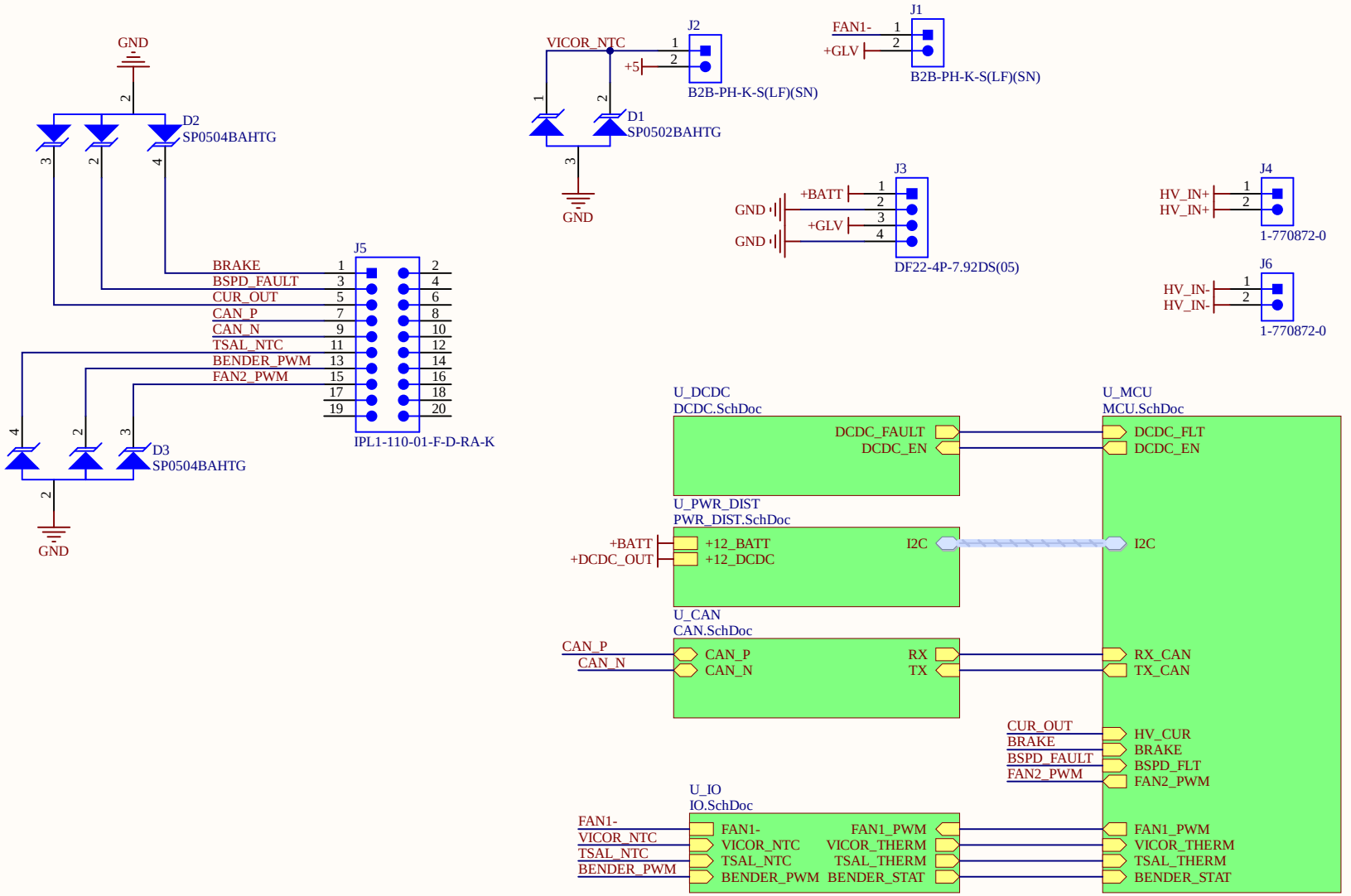

Still need fan crtl, etc

Title: *Top.SchDoc*		
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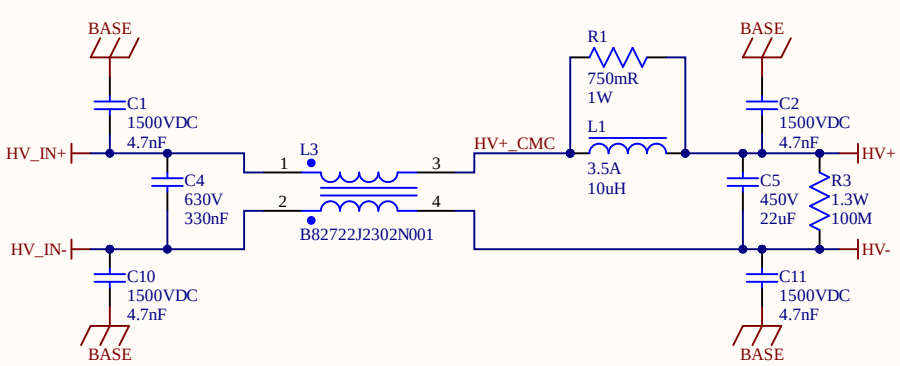
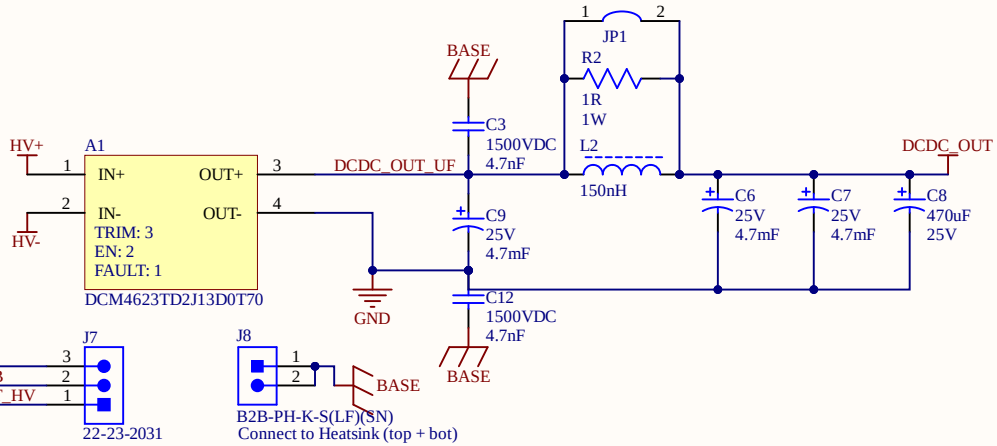
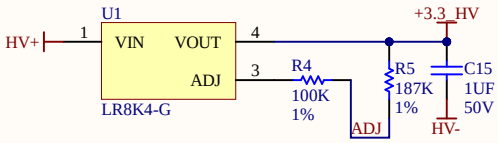
Size: Letter	Auth: *	Proj: *
Date: 2/19/2020 8:49:27 PM	Sheet 1 of 7	www.uvmaero.org
File: C:\git\AERO_2019-2020\HV Interface\Top.SchDoc		

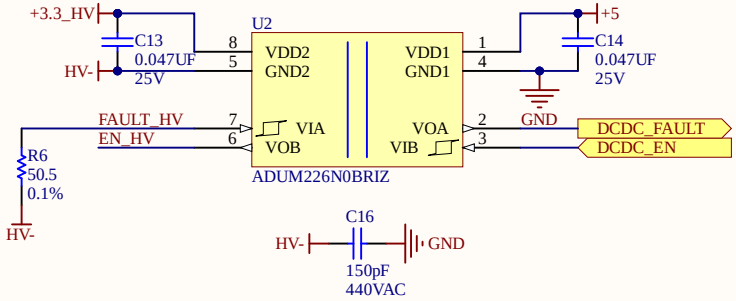
Vicor says no output filter, just cap. Adding bulk storage anyway tho
Should really bench test this tbh
bench test willam's filter if i can
Then again willam's DID work so....

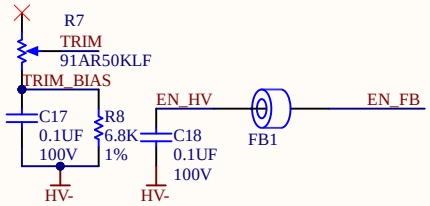
New filter design (see PDF)





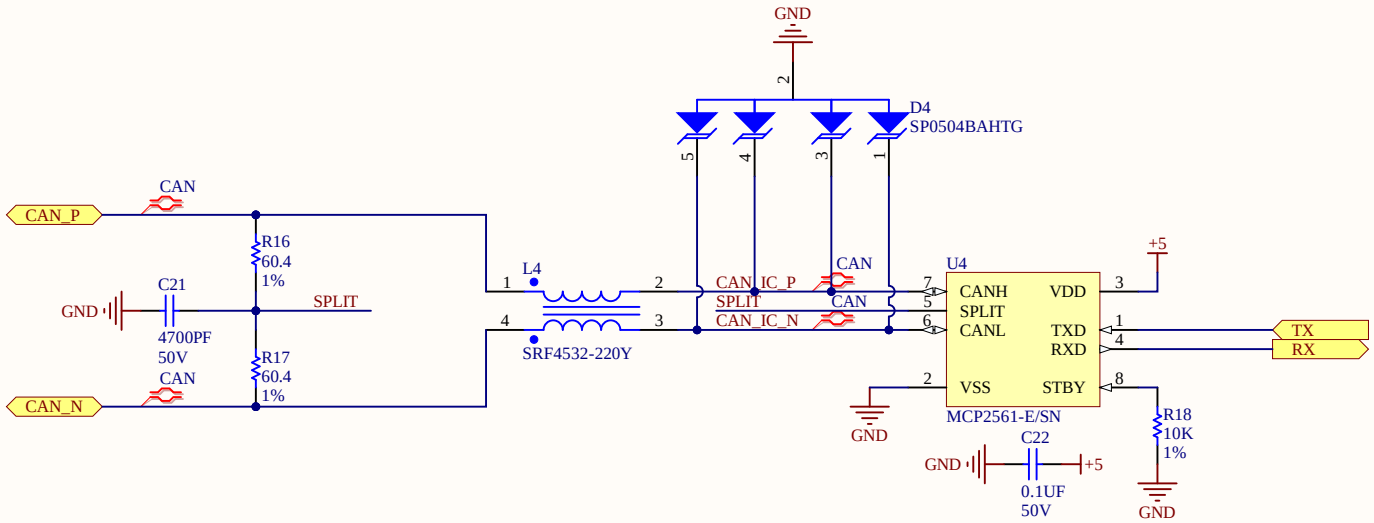






Add willam's filter but setup as dnp

Title: DCDC.SchDoc			AERO
Desc: -			
Size: Letter	Auth: *	Proj: *	
Date: 2/19/2020	8:49:28 PM	Sheet 2 of 7	www.uvmaero.org
File: C:\git\AERO_2019-2020\HV Interface\DCDC.SchDoc			



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Date: 2/19/2020 8:49:28 PM		Sheet 3 of 7	www.uvmaero.org
File: C:\git\AERO_2019-2020\HV Interface\CAN.SchDoc			

Power for upload wont power the rest of board
Prevents killing programmer

U5
STMPS2141STR
R22 10K 1%

BENDER_STAT
DCDC_FLT
VICOR_THERM
TSAL_THERM
BRAKE
HV_CUR
BSPD_FLT
DCDC_EN
FAN1_PWM
FAN2_PWM
I2C

D5 SM0805GCL LED1_RES R19 1.5K 1% LED1
D6 SM0805HCL LED2_RES R20 1.5K 1% LED2
D7 SM0805YCL LED3_RES R21 1.5K 1% LED3

U6A
U6B
U6C
U6D
U6E
ATMEGA328P-AUR

J9 Con_1x4_UART
J10 CON_2x3_ICSP

U7 MCP2515T-I/SO
Y1 CSTNE16M0V530000R0

SW1 FSMSMTR

Title: MCU.SchDoc
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Size: Letter | Auth: * | Proj: *
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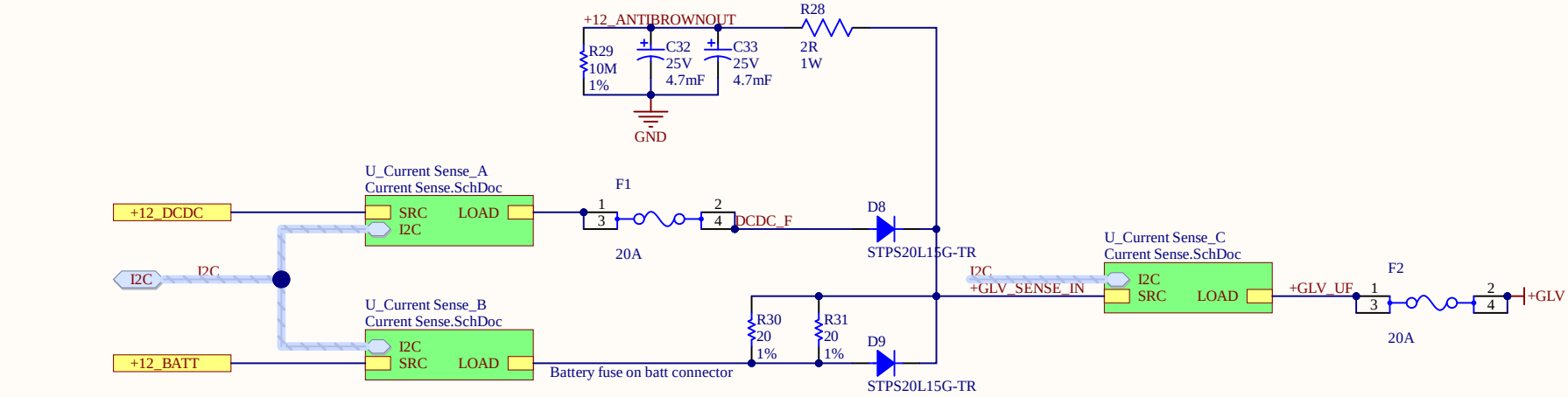
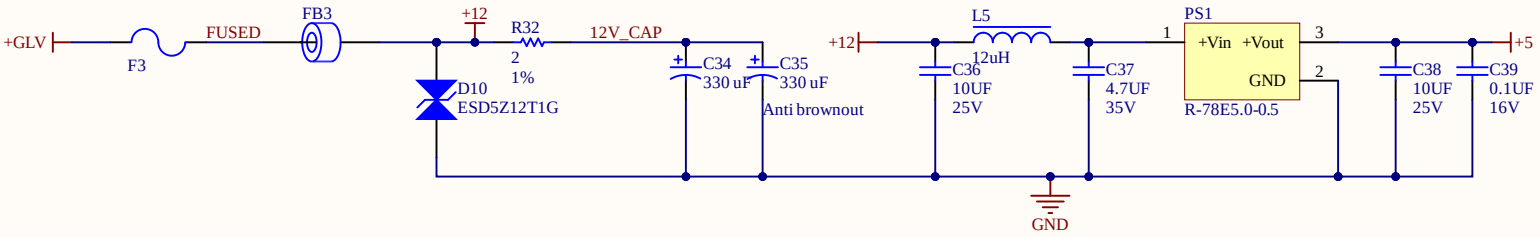
AERO
www.uvmaero.org





Title: PWR_DIST.SchDoc			
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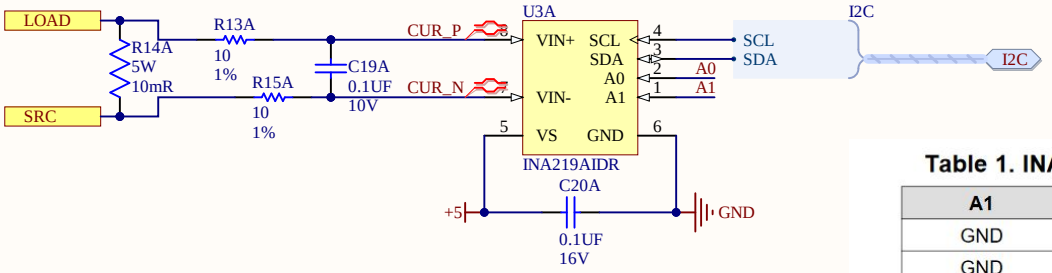
Date: 2/19/2020 8:49:28 PM		Sheet 5 of 7	www.uvmaero.org
File: C:\git\AERO_2019-2020\HV Interface\PWR_DIST.SchDoc			

Add info about chip



Consider testing with adafruit board first??

Set using varients

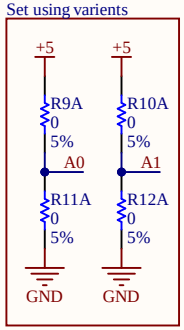
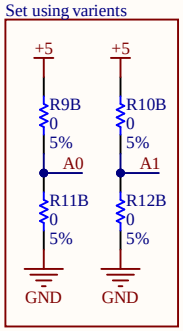


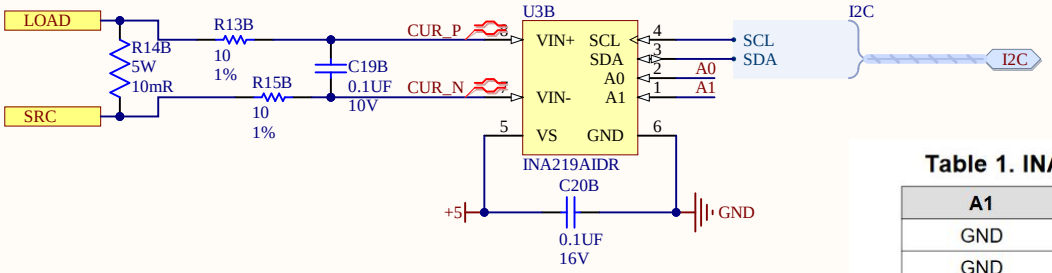
Table 1. INA219 Address Pins and Slave Addresses

A1	A0	SLAVE ADDRESS
GND	GND	1000000
GND	V_{S+}	1000001
GND	SDA	1000010
GND	SCL	1000011
V_{S+}	GND	1000100
V_{S+}	V_{S+}	1000101
V_{S+}	SDA	1000110
V_{S+}	SCL	1000111
SDA	GND	1001000
SDA	V_{S+}	1001001
SDA	SDA	1001010
SDA	SCL	1001011
SCL	GND	1001100
SCL	V_{S+}	1001101
SCL	SDA	1001110
SCL	SCL	1001111

Title: *Current Sense.SchDoc*			AERO
Desc:			
Size: Letter	Auth: *	Proj: *	
Date: 2/19/2020	8:49:28 PM	Sheet 6 of 7	www.uvmaero.org
File: C:\git\AERO_2019-2020\HV Interface\Current Sense.SchDoc			

Add info about chip





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GND	GND	1000000
GND	V_{S+}	1000001
GND	SDA	1000010
GND	SCL	1000011
V_{S+}	GND	1000100
V_{S+}	V_{S+}	1000101
V_{S+}	SDA	1000110
V_{S+}	SCL	1000111
SDA	GND	1001000
SDA	V_{S+}	1001001
SDA	SDA	1001010
SDA	SCL	1001011
SCL	GND	1001100
SCL	V_{S+}	1001101
SCL	SDA	1001110
SCL	SCL	1001111

Title: *Current Sense.SchDoc*			AERO
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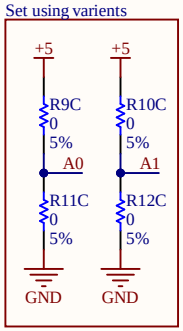
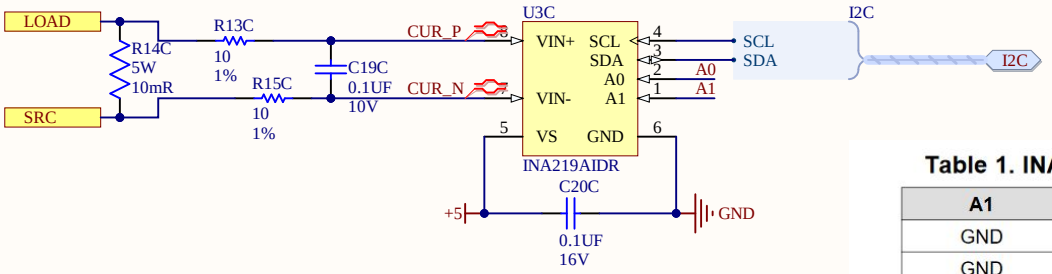
Size: Letter	Auth: *	Proj: *	
Date: 2/19/2020	8:49:28 PM	Sheet 6 of 7	www.uvmaero.org
File: C:\git\AERO_2019-2020\HV Interface\Current Sense.SchDoc			

Add info about chip





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GND	SDA	1000010
GND	SCL	1000011
V_{S+}	GND	1000100
V_{S+}	V_{S+}	1000101
V_{S+}	SDA	1000110
V_{S+}	SCL	1000111
SDA	GND	1001000
SDA	V_{S+}	1001001
SDA	SDA	1001010
SDA	SCL	1001011
SCL	GND	1001100
SCL	V_{S+}	1001101
SCL	SDA	1001110
SCL	SCL	1001111

Title: *Current Sense.SchDoc*			AERO
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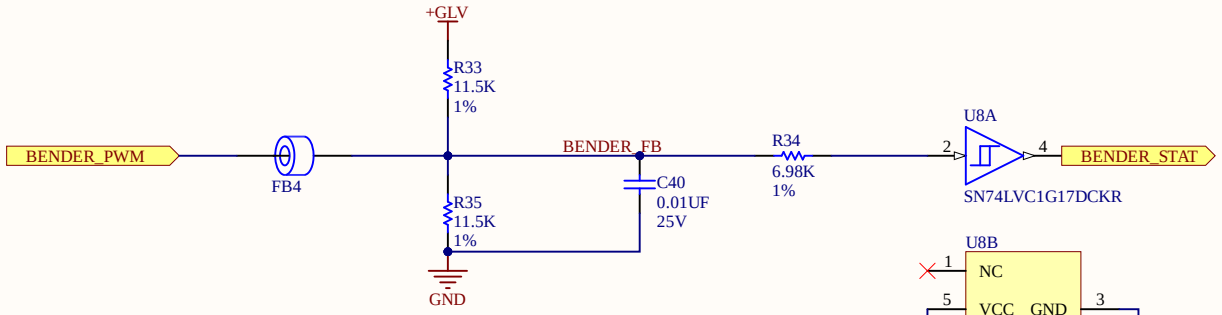
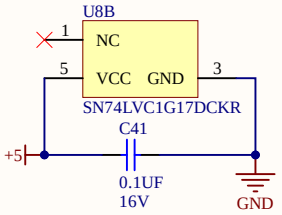
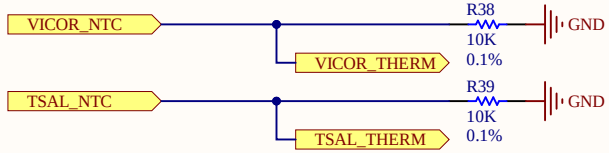
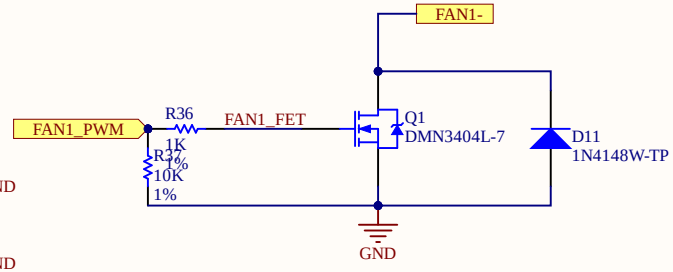
Date: 2/19/2020	8:49:28 PM	Sheet 6 of 7	www.uvmaero.org
File: C:\git\AERO_2019-2020\HV Interface\Current Sense.SchDoc			



One of these will be DNP
If using IR155-3204 (which has high-side output), DNP Upper resistor
If using IR155-3203 (low side output), DNP Lower resistor







Title: *IO.SchDoc*			AERO
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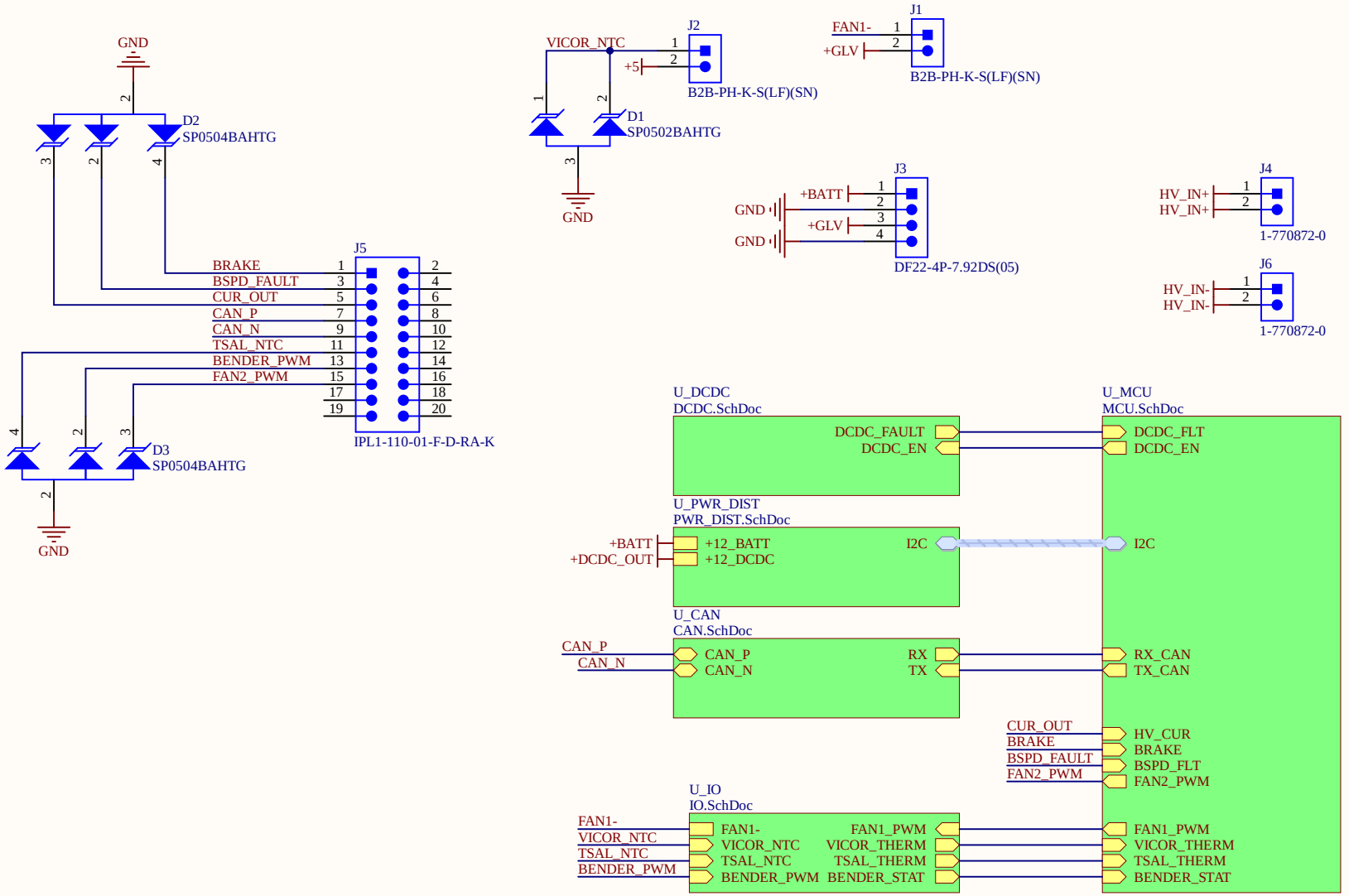
File: C:\git\AERO_2019-2020\HV Interface\IO.SchDoc			



Still need fan crtl, etc

Title: *Top.SchDoc*		
Desc: * * *		
Size: Letter	Auth: *	Proj: *
Date: 2/19/2020 8:49:30 PM	Sheet 1 of 7	www.uvmaero.org
File: C:\git\AERO_2019-2020\HV Interface\Top.SchDoc		

Vicor says no output filter, just cap. Adding bulk storage anyway tho
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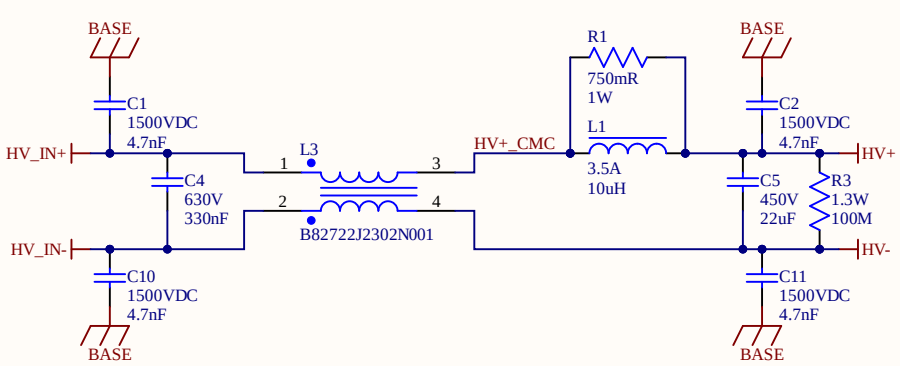
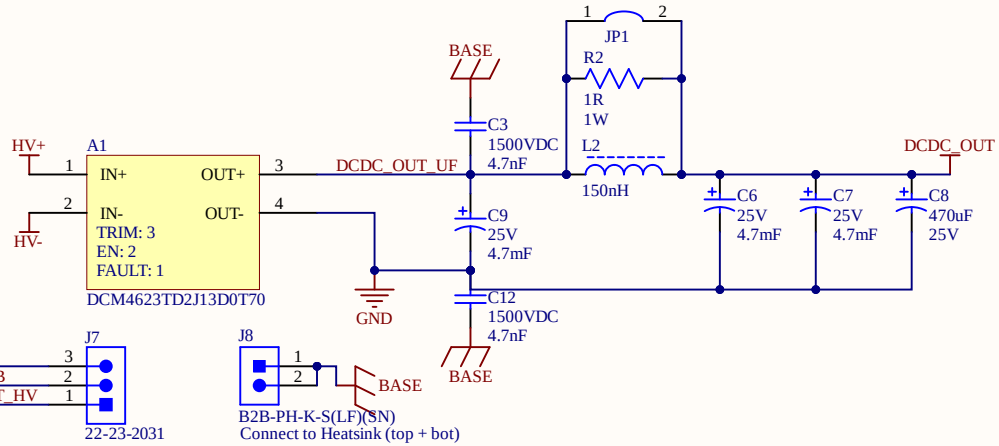
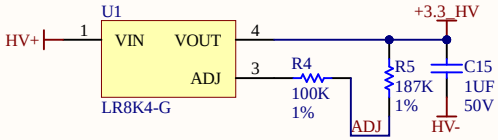
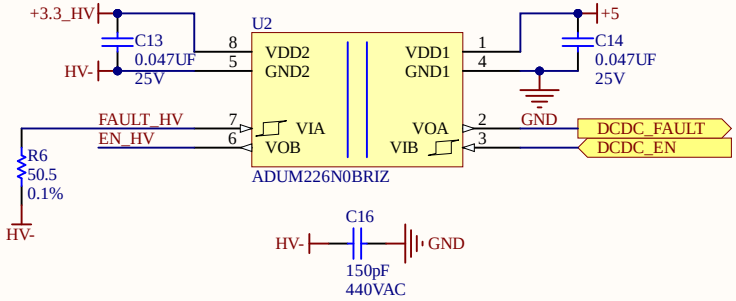
New filter design (see PDF)

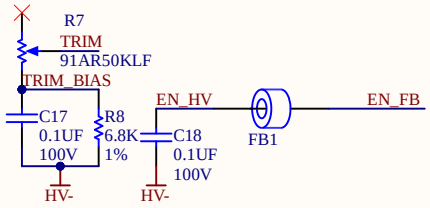








Add willam's filter but setup as dnp



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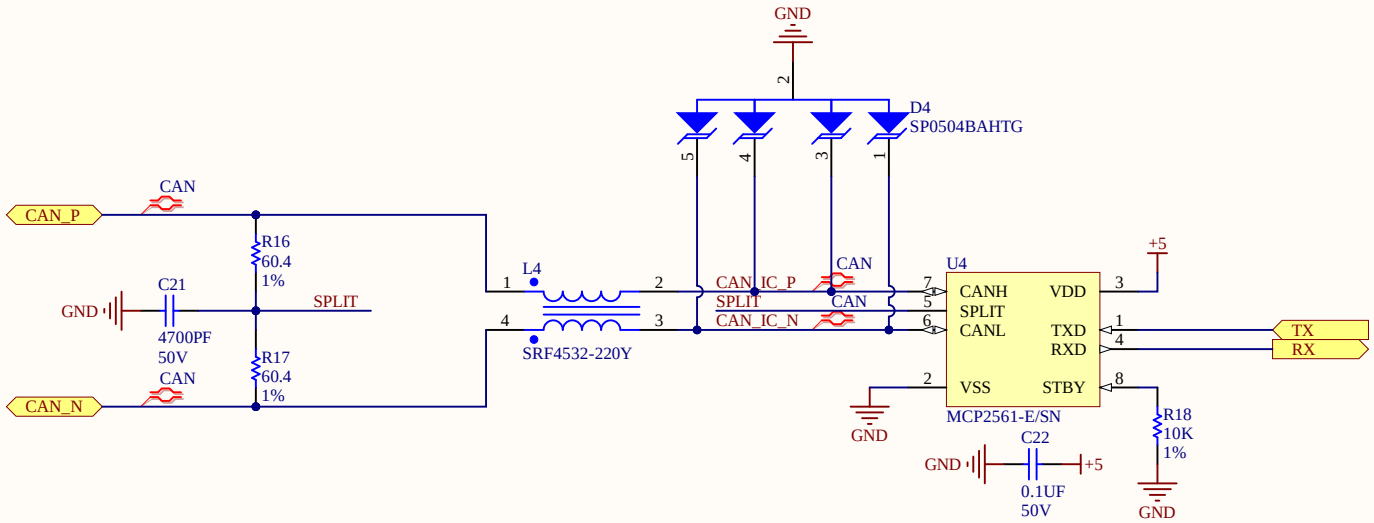

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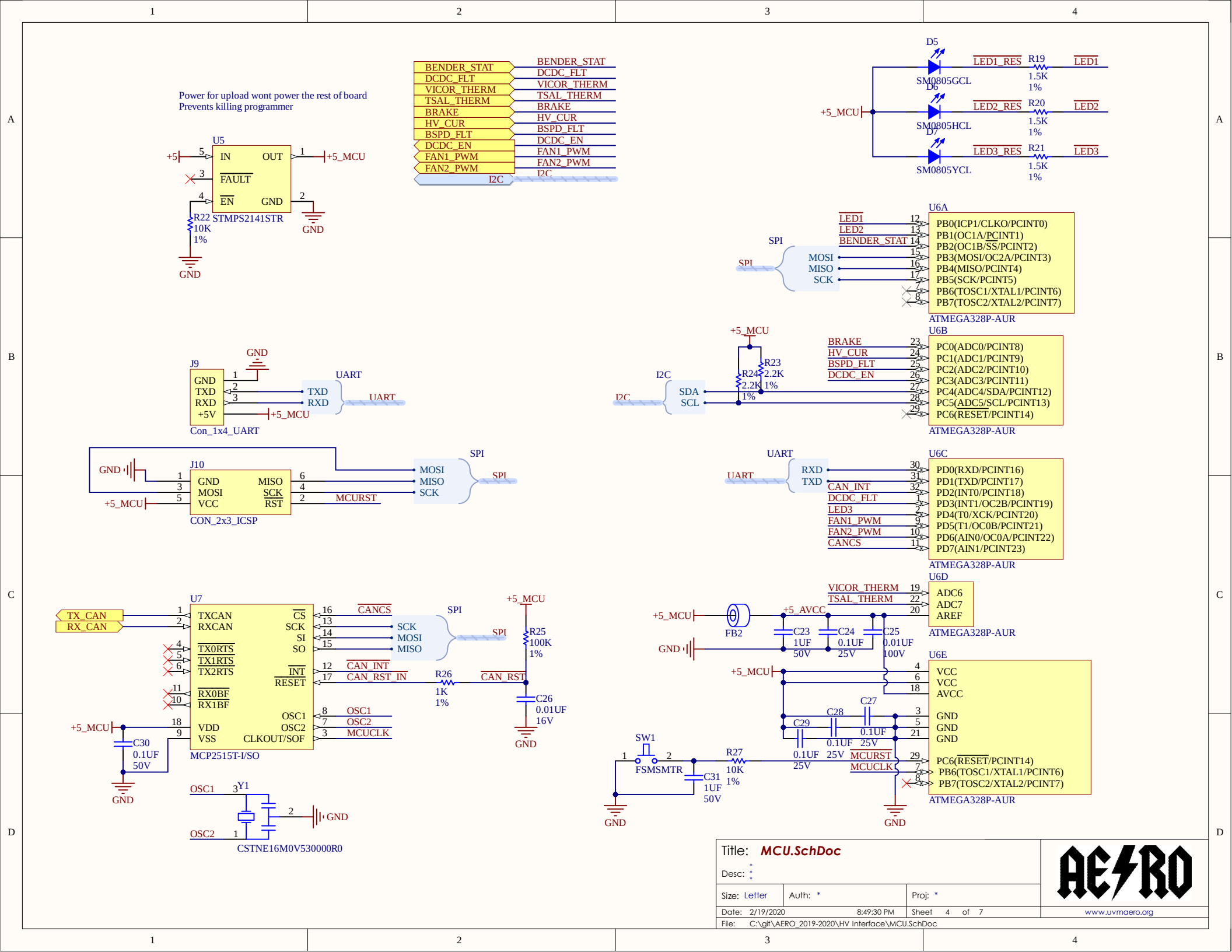
Power for upload wont power the rest of board
Prevents killing programmer
U5
STMPS2141STR
R22 10K 1%
BENDER_STAT
DCDC_FLT
VICOR_THERM
TSAL_THERM
BRAKE
HV_CUR
BSPD_FLT
DCDC_EN
FAN1_PWM
FAN2_PWM
I2C
D5
D6
D7
SM0805GCL
SM0805HCL
SM0805YCL
LED1_RES
LED2_RES
LED3_RES
R19 1.5K 1%
R20 1.5K 1%
R21 1.5K 1%
LED1
LED2
LED3
U6A
U6B
U6C
U6D
U6E
ATMEGA328P-AUR
J9
Con_1x4_UART
J10
CON_2x3_ICSP
U7
MCP2515T-I/SO
CSTNE16M0V530000R0
Y1
SW1
FSMSMTR
FB2
R23 2.2K
R24 2.2K 1%
R25 100K 1%
R26 1K 1%
R27 10K 1%
C23 1UF 50V
C24 0.1UF 25V
C25 0.01UF 100V
C26 0.01UF 16V
C27 0.1UF 25V
C28 0.1UF 25V
C29 0.1UF 25V
C30 0.1UF 50V
C31 1UF 50V
+5_MCU
+5_AVCC
GND
SPI
UART
I2C
MCURST
CANCS
CAN_INT
CAN_RST
CAN_RST_IN
OSC1
OSC2
MCUCLK
TX_CAN
RX_CAN
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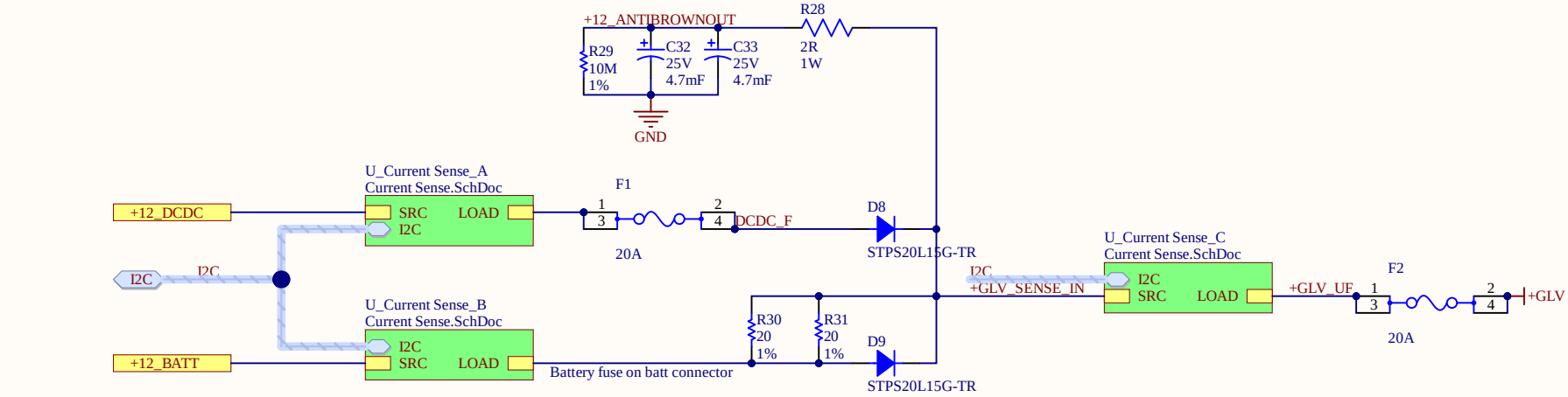

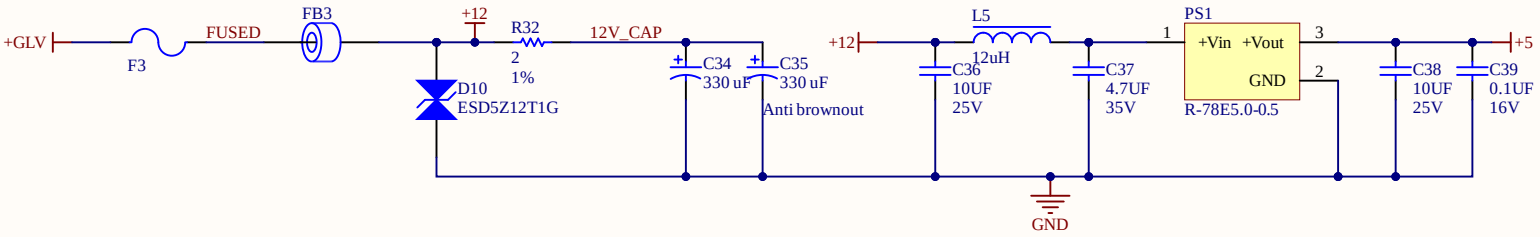

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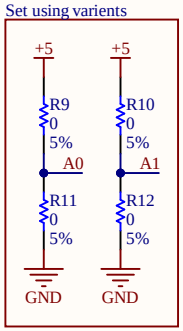
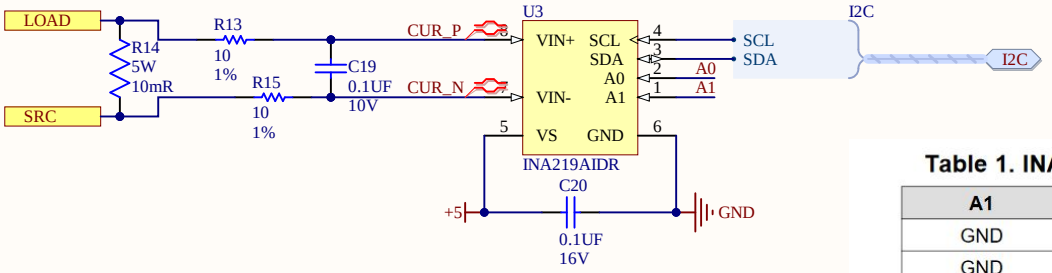
File: C:\git\AERO_2019-2020\HV Interface\PWR_DIST.SchDoc			

Add info about chip





Consider testing with adafruit board first??

Table 1. INA219 Address Pins and Slave Addresses

A1	A0	SLAVE ADDRESS
GND	GND	1000000
GND	V_{S+}	1000001
GND	SDA	1000010
GND	SCL	1000011
V_{S+}	GND	1000100
V_{S+}	V_{S+}	1000101
V_{S+}	SDA	1000110
V_{S+}	SCL	1000111
SDA	GND	1001000
SDA	V_{S+}	1001001
SDA	SDA	1001010
SDA	SCL	1001011
SCL	GND	1001100
SCL	V_{S+}	1001101
SCL	SDA	1001110
SCL	SCL	1001111

Title: *Current Sense.SchDoc*			AERO
Desc: * * *			
Size: Letter	Auth: *	Proj: *	
Date: 2/19/2020	8:49:30 PM	Sheet 6 of 7	www.uvmaero.org
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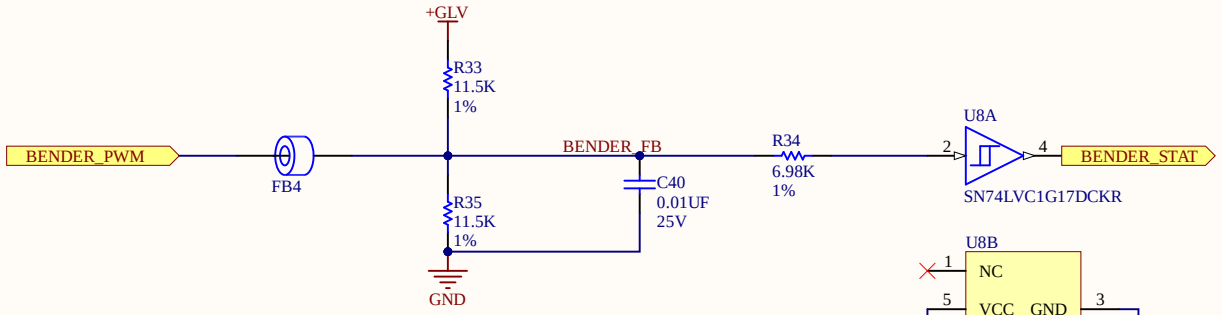

One of these will be DNP
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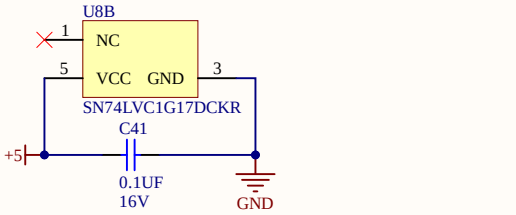
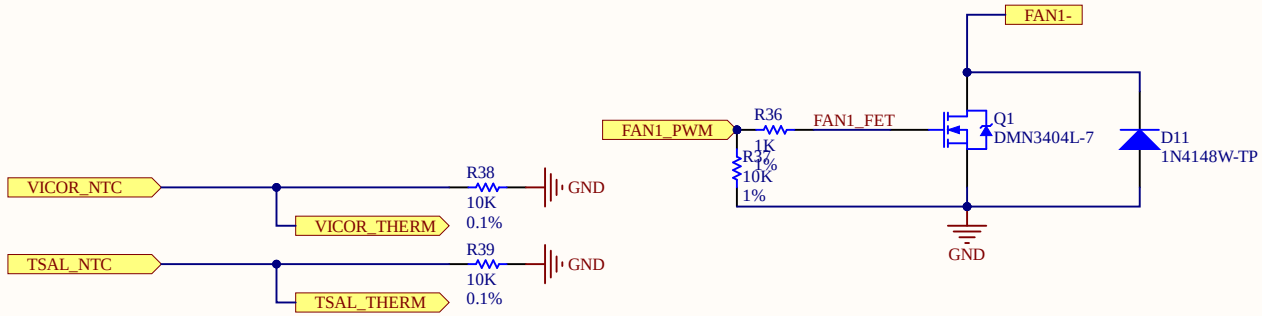
If using IR155-3203 (low side output), DNP Lower resistor





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