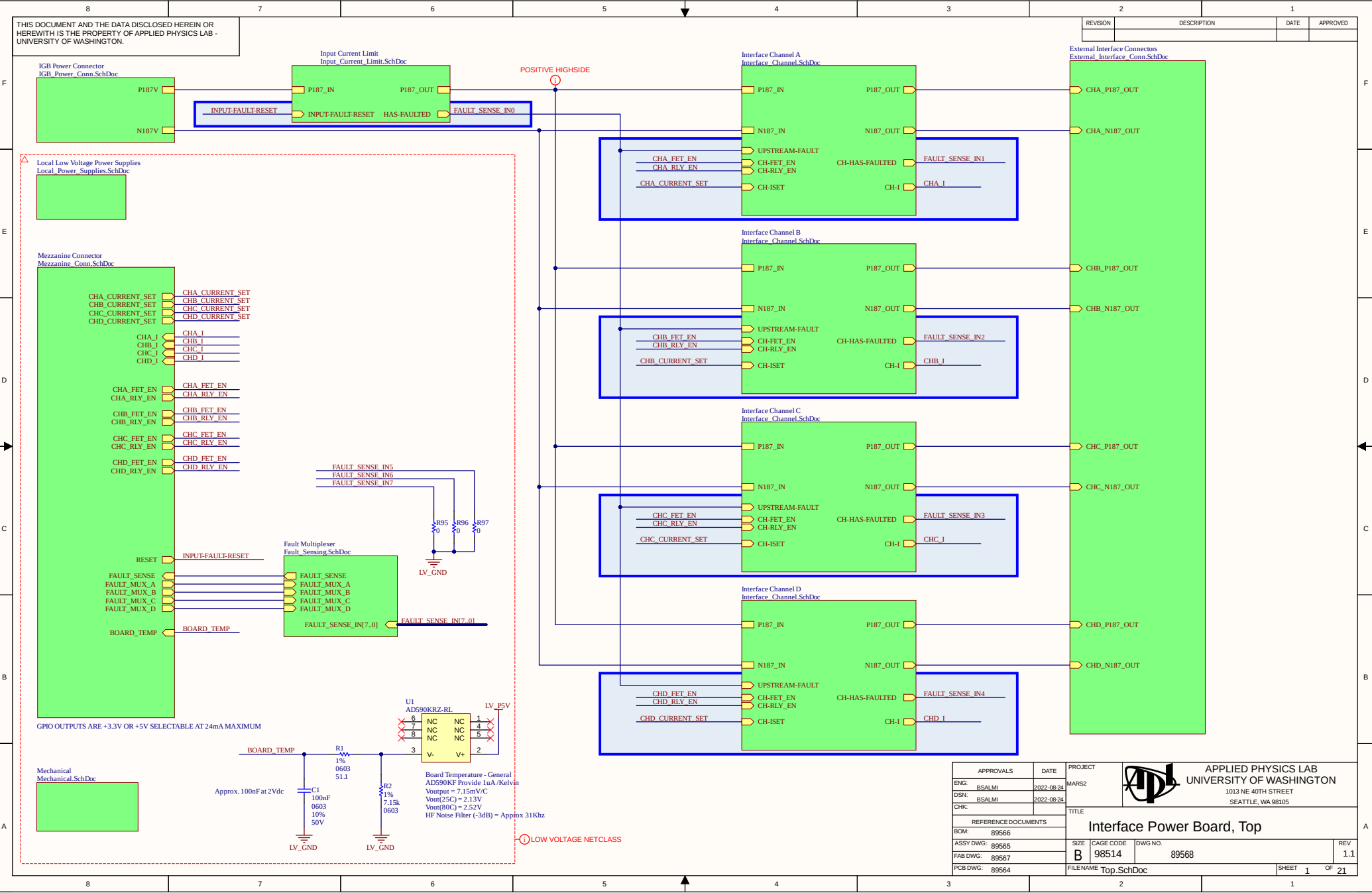
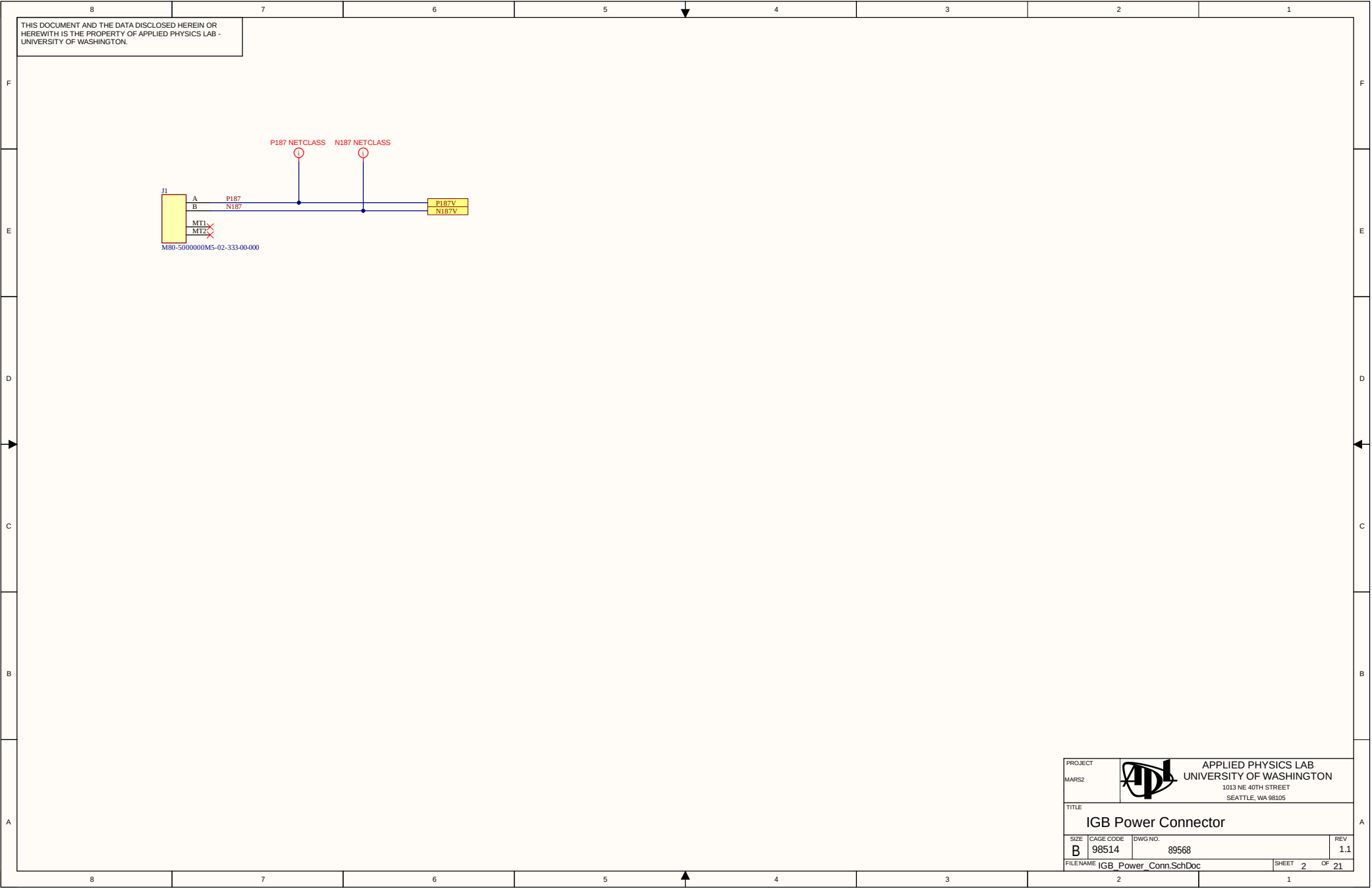
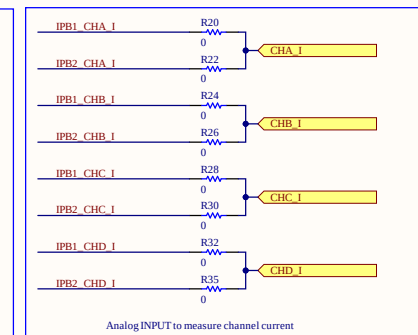
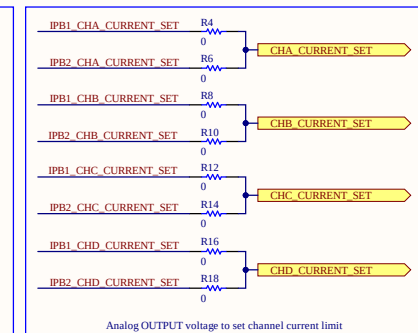
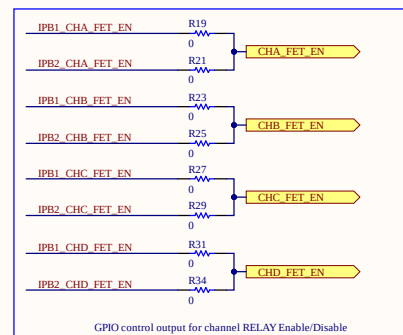
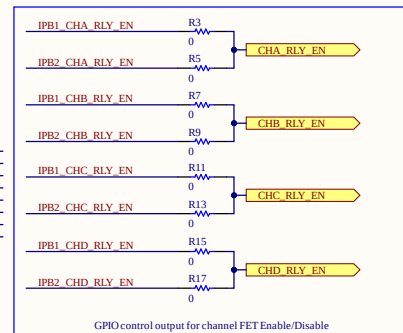
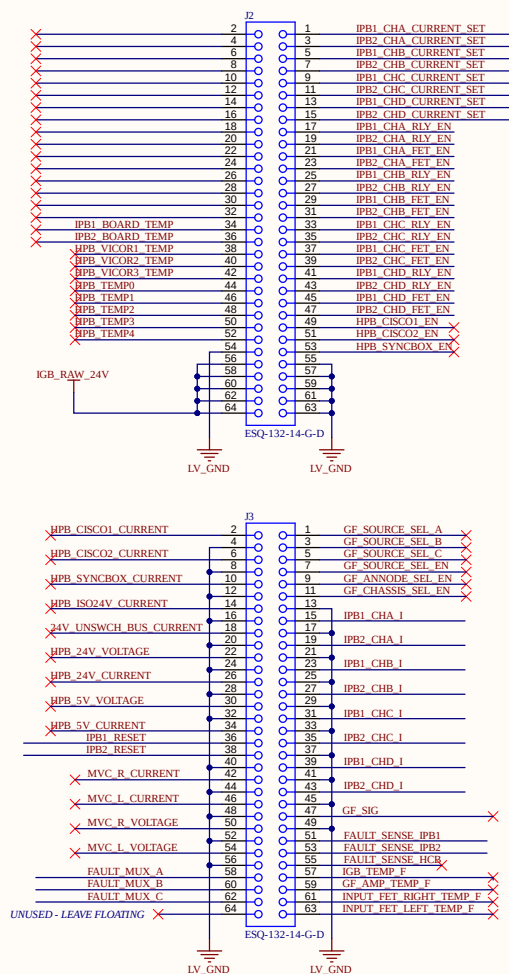
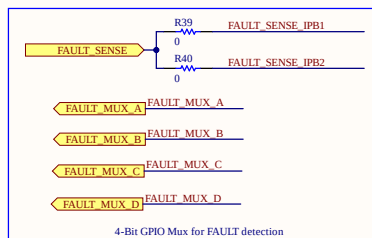
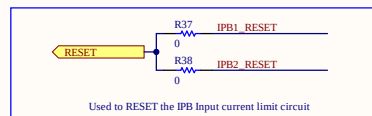




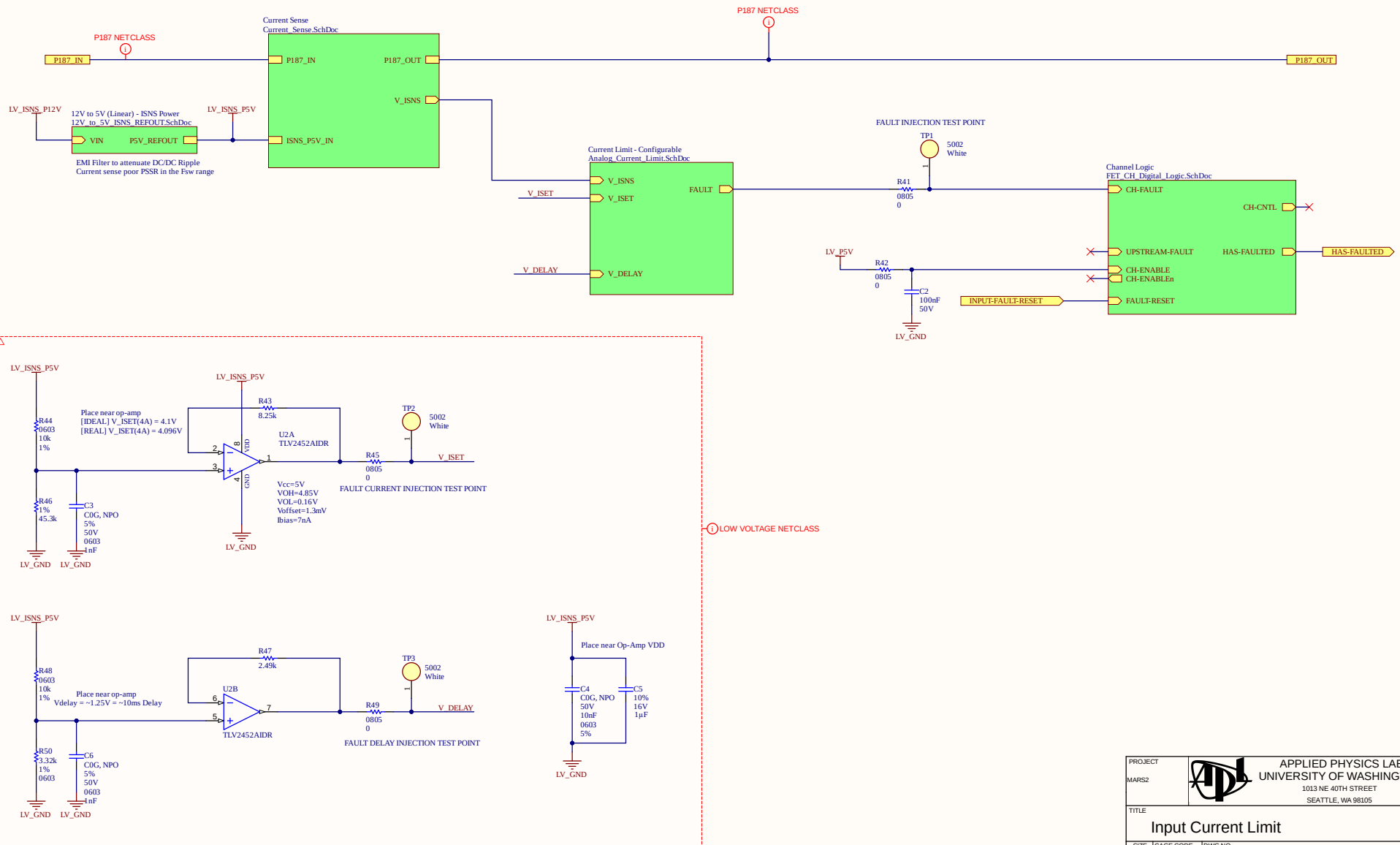


THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.



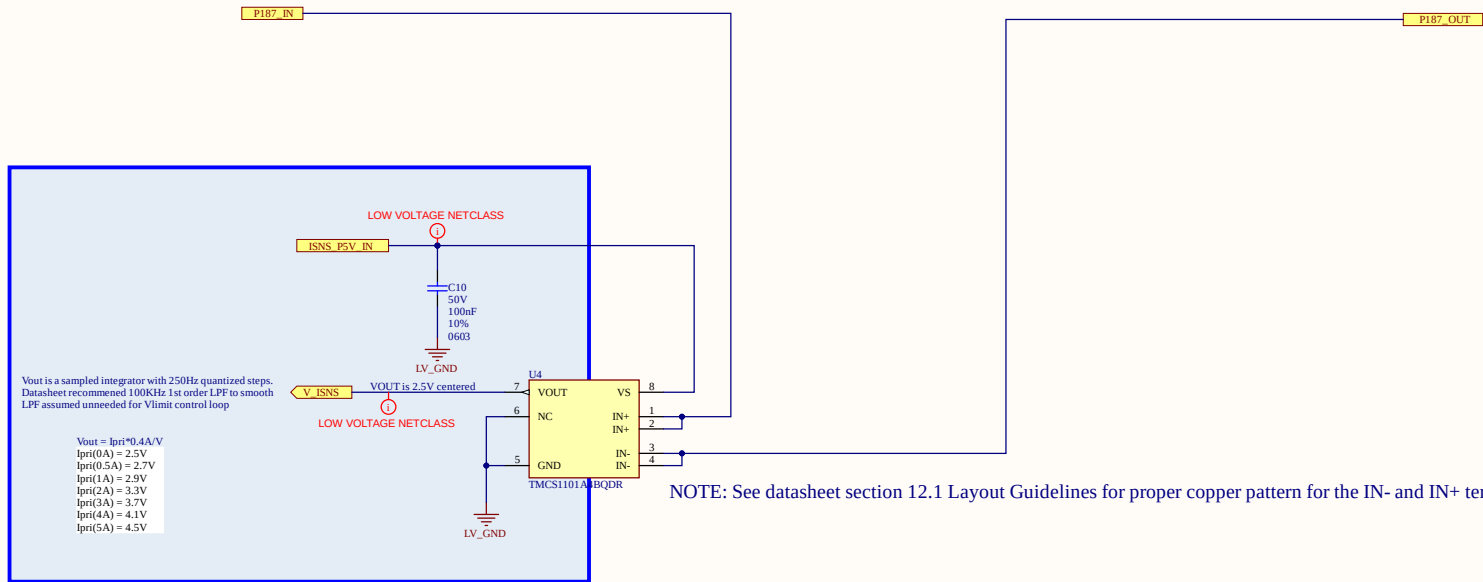
PROJECT MARS2		 APPLIED PHYSICS LAB UNIVERSITY OF WASHINGTON 1013 NE 40TH STREET SEATTLE, WA 98105	
TITLE Mezzanine Connector			
SIZE B	CAGE CODE 98514	DWG NO. 89568	REV 1.1
FILENAME Mezzanine_Conn.SchDoc		SHEET 3	OF 21

THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB - UNIVERSITY OF WASHINGTON.



PROJECT				APPLIED PHYSICS LAB	
MARS2				UNIVERSITY OF WASHINGTON	
				1013 NE 40TH STREET	
				SEATTLE, WA 98105	
TITLE					
Input Current Limit					
SIZE	CAGE CODE	DWG NO.		REV	
B	98514	89568		1.1	
FILENAME		Input_Current_Limit.SchDoc		SHEET	4 OF

THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.

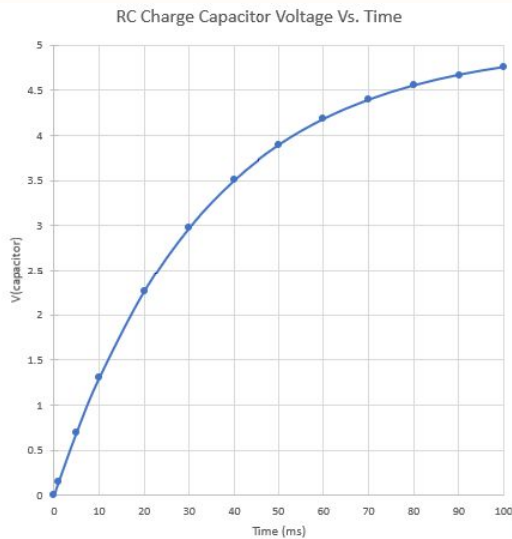
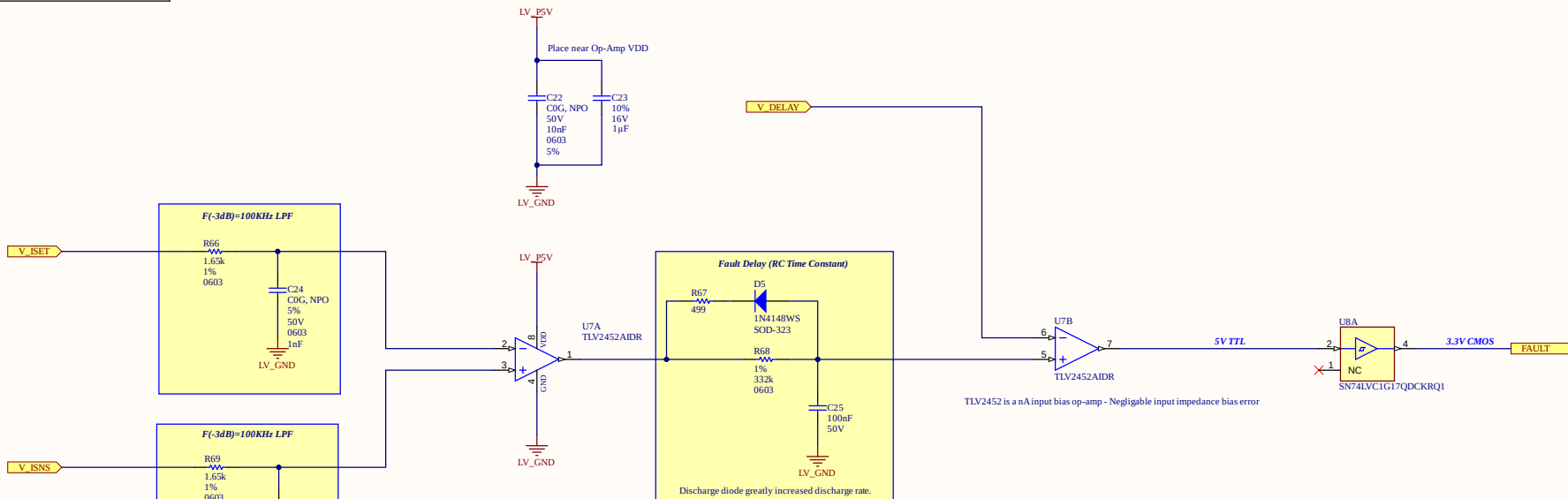


NOTE: See datasheet section 12.1 Layout Guidelines for proper copper pattern for the IN- and IN+ terminals.

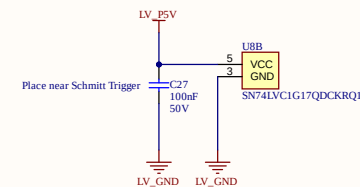
Isolated HALL Effect current sensor

PROJECT MARS2				APPLIED PHYSICS LAB UNIVERSITY OF WASHINGTON 1013 NE 40TH STREET SEATTLE, WA 98105	
TITLE Current Sense					
SIZE B	CAGE CODE 98514	DWG NO. 89568		REV 1.1	
FILENAME Current_Sense.SchDoc				SHEET 5	OF 21

THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.

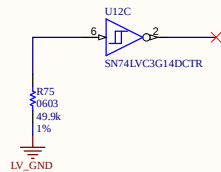
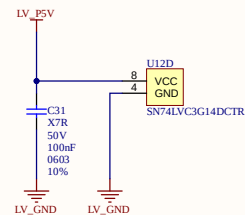
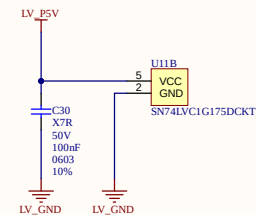
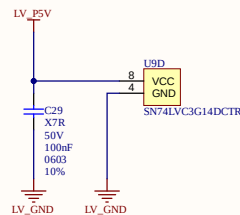
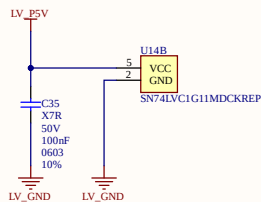
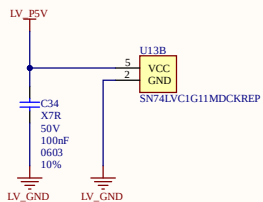
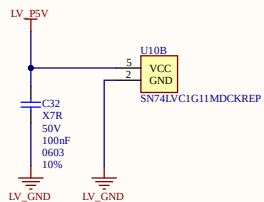
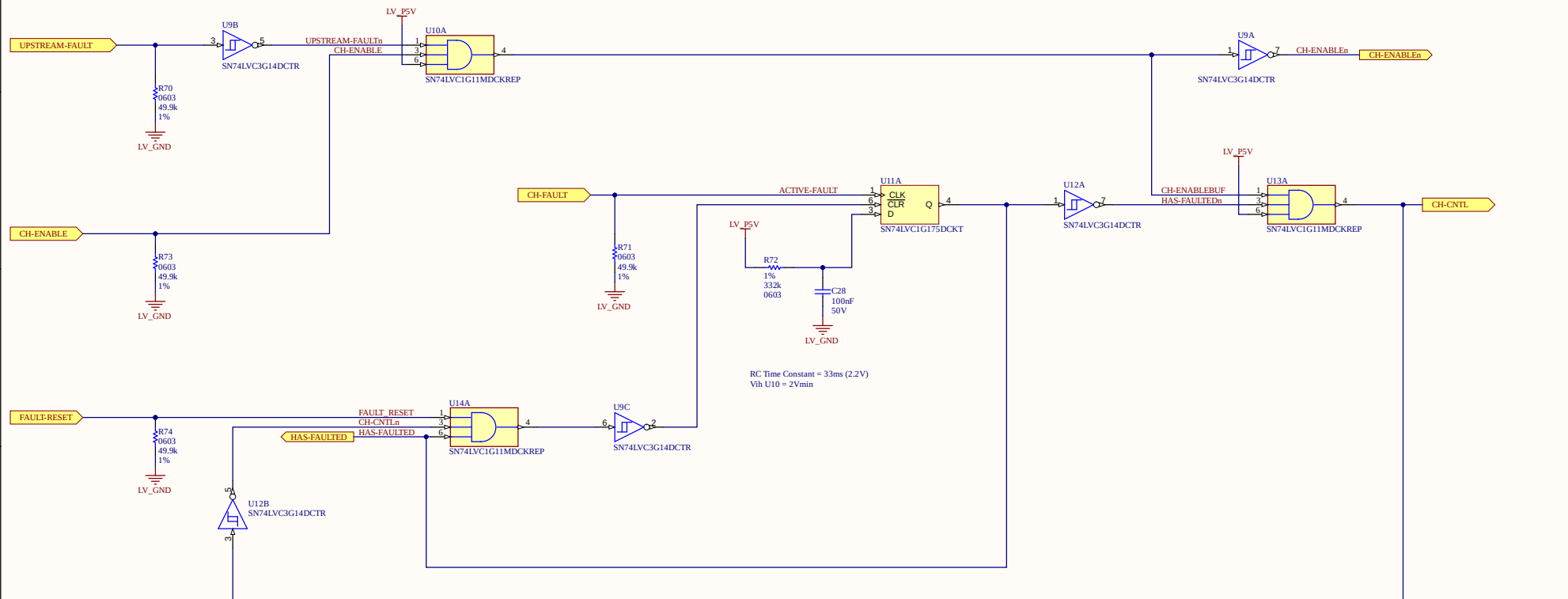


V_Delay Voltage Vs. Time (Approximate)



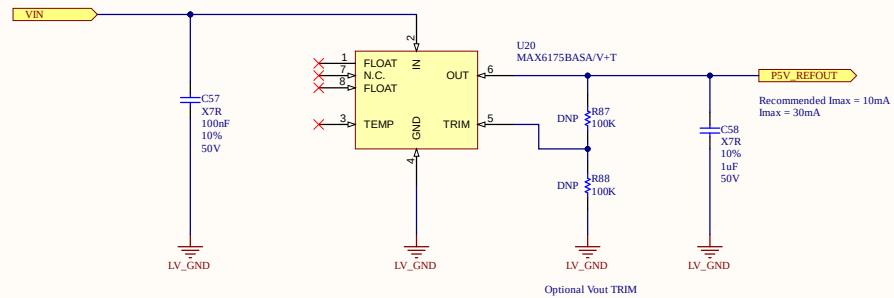
PROJECT MARS2				APPLIED PHYSICS LAB UNIVERSITY OF WASHINGTON 1013 NE 40TH STREET SEATTLE, WA 98105	
TITLE Analog Current Limit					
SIZE B	CAGE CODE 98514	DWG NO. 89568		REV 1.1	
FILENAME Analog		Current Limit.SchDoc		SHEET 6	OF 21

THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.

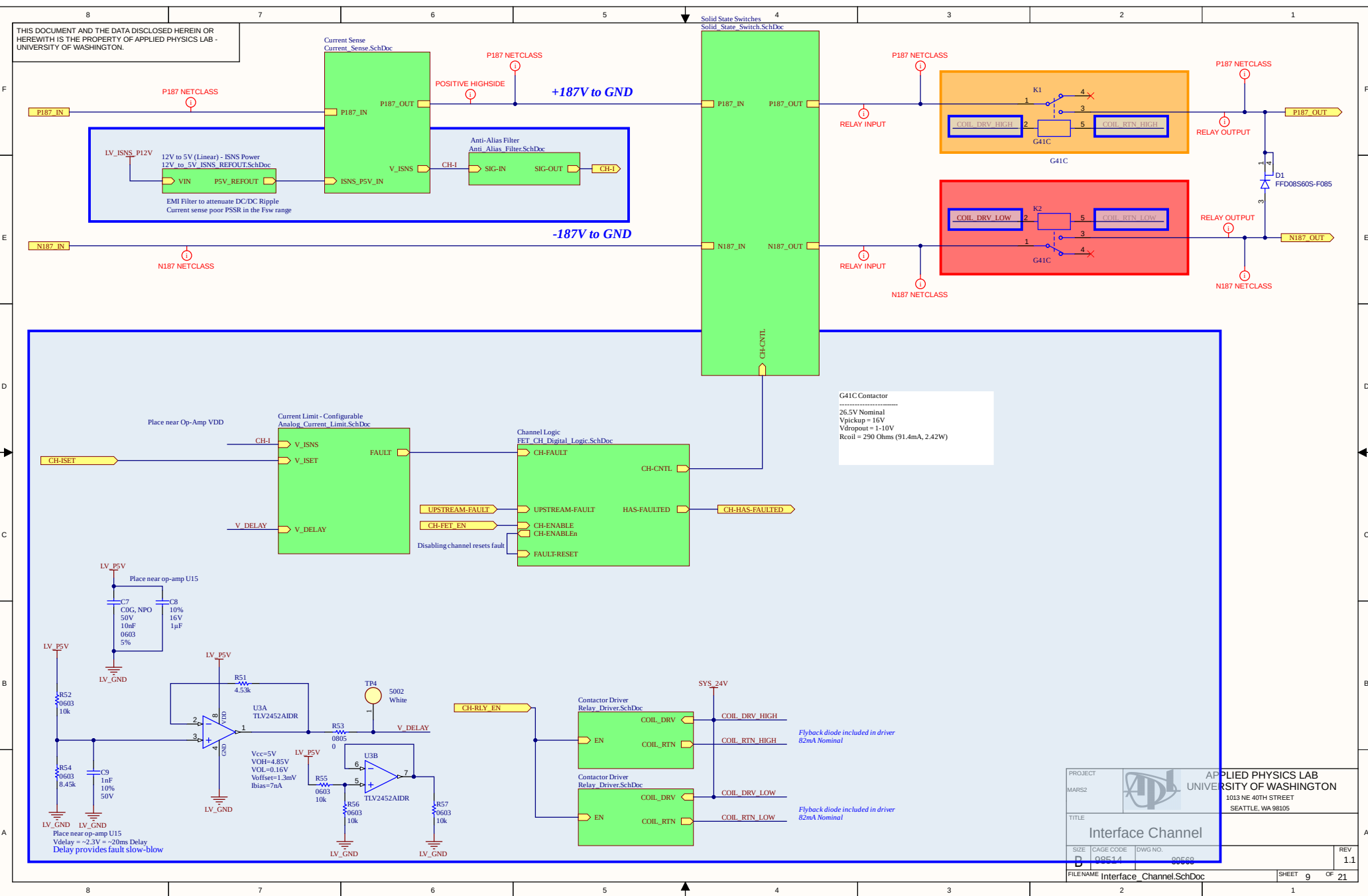


PROJECT MARS2				APPLIED PHYSICS LAB UNIVERSITY OF WASHINGTON 1013 NE 40TH STREET SEATTLE, WA 98105	
TITLE Interface Channel Digital Logic					
SIZE B	CAGE CODE 98514	DWG NO. 89568		REV 1.1	
FILENAME FET_CH_Digital_Logic.SchDoc				SHEET 7	OF 21

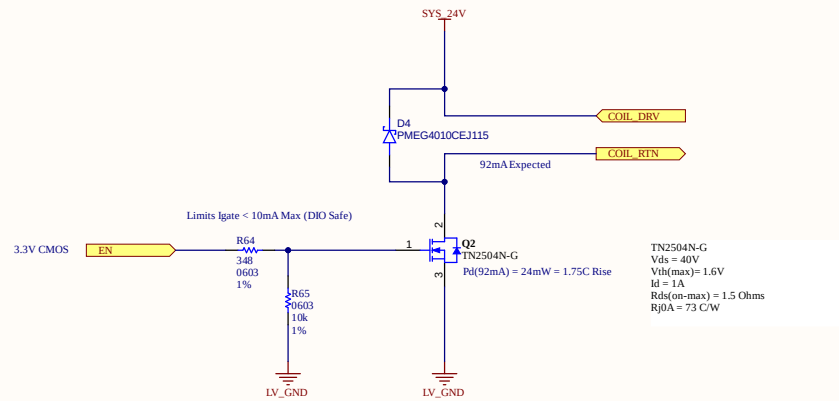
THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.



PROJECT		 APPLIED PHYSICS LAB UNIVERSITY OF WASHINGTON 1013 NE 40TH STREET SEATTLE, WA 98105		
MARS2				
TITLE				
12V to 5V VReference Supply				
SIZE	CAGE CODE	DWG NO.	REV	
B	98514	89568	1.1	
FILENAME 12V to 5V_VSNS_REFOUT.SchDoc		SHEET 8	OF 21	



THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.

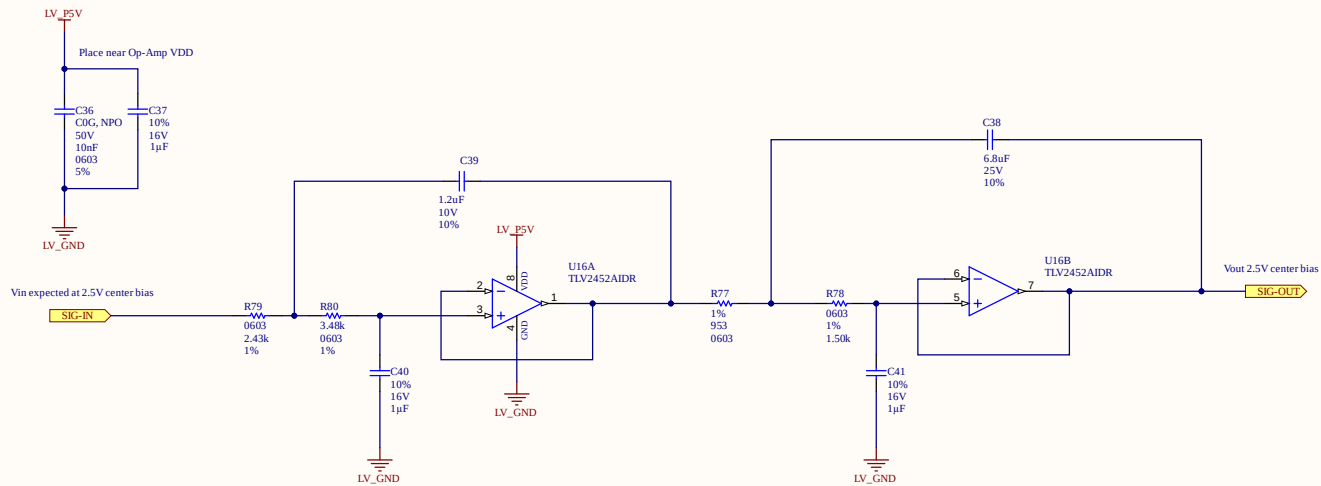


G41C Contactor

26.5V Nominal
Vpickup = 16V
Vdropout = 1-10V
Rcoil = 290 Ohms (91.4mA, 2.42W)

PROJECT		 APPLIED PHYSICS LAB UNIVERSITY OF WASHINGTON 1013 NE 40TH STREET SEATTLE, WA 98105		
MARS2				
TITLE				
Relay Driver				
SIZE	CAGE CODE	DWG NO.	REV	
B	98514	89568	1.1	
FILENAME		Relay_Driver.SchDoc	SHEET	OF
			10	21

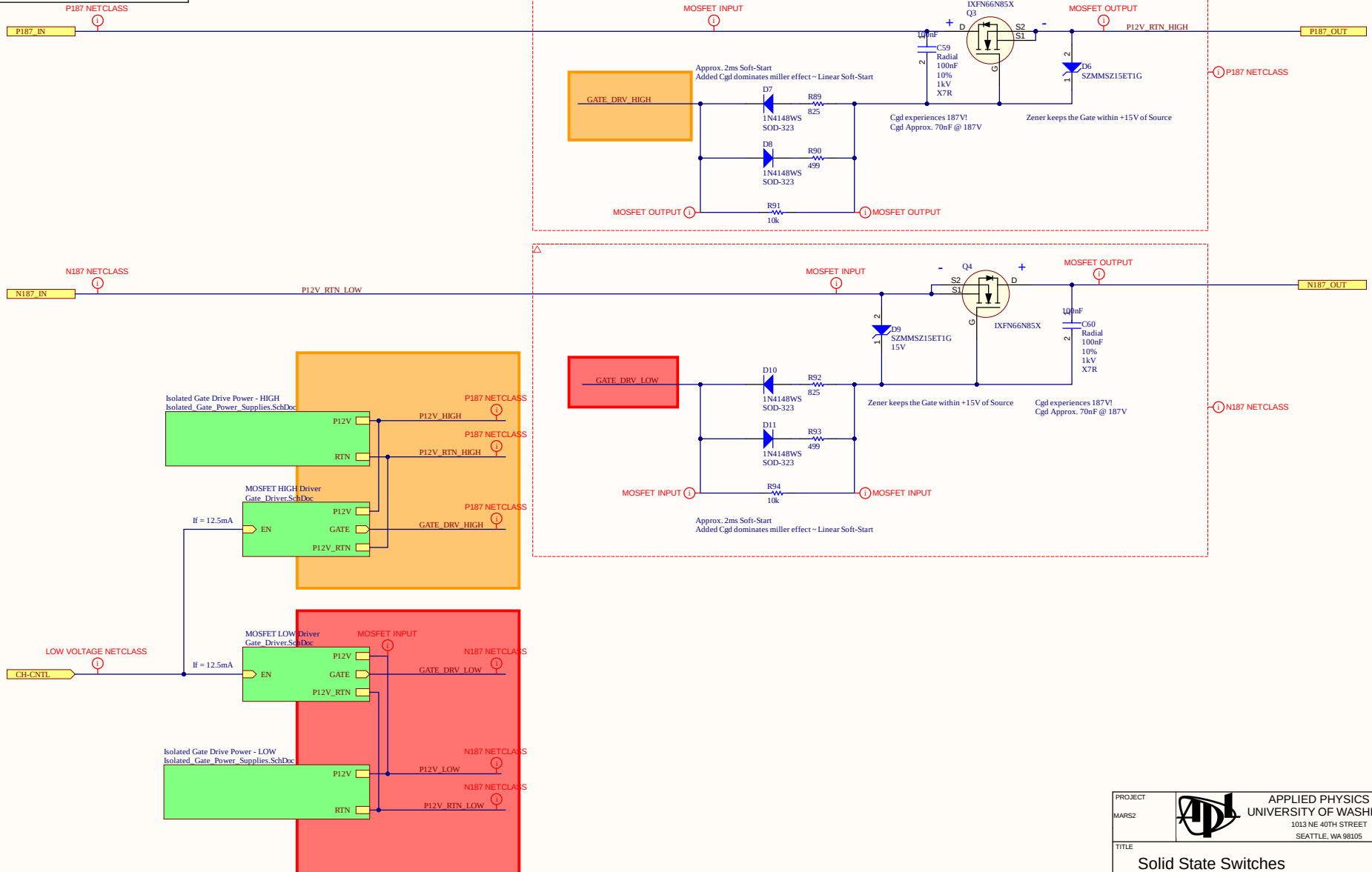
THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.



4th Order Butterworth Active Filter with Unity Gain Output
TLV2452A Vout(LOW) @ 10mA = 0.5V
TLV2452A Vout(HIGH) @ 10mA = 4.5V
F(-3dB) = 50Hz
Av(300Hz) = -61dB

PROJECT			APPLIED PHYSICS LAB		
MARS2			UNIVERSITY OF WASHINGTON		
			1013 NE 40TH STREET		
				SEATTLE, WA 98105	
TITLE					
Anti-Alias Filter					
SIZE	CAGE CODE	DWG NO.			REV
B	98514	89568			1.1
FILENAME			Anti Alias Filter.SchDoc		SHEET 11 OF 21

THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.

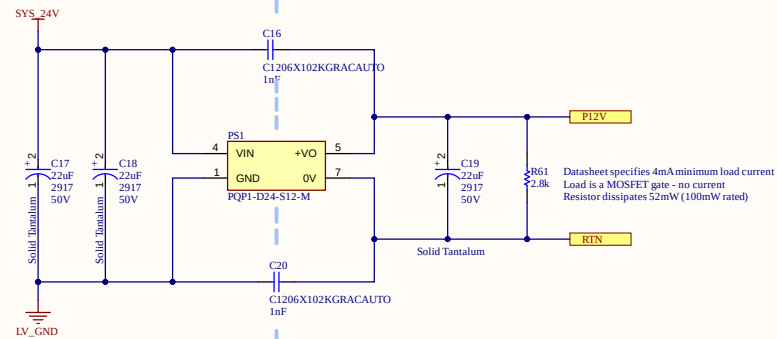


PROJECT	MARS2	APPLIED PHYSICS LAB UNIVERSITY OF WASHINGTON 1013 NE 40TH STREET SEATTLE, WA 98105
TITLE	Solid State Switches	
SIZE	CAGE CODE	DWG NO.
B	98514	89568
FILENAME	Solid_State_Switch.SchDoc	
SHEET	12	OF 21

THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.

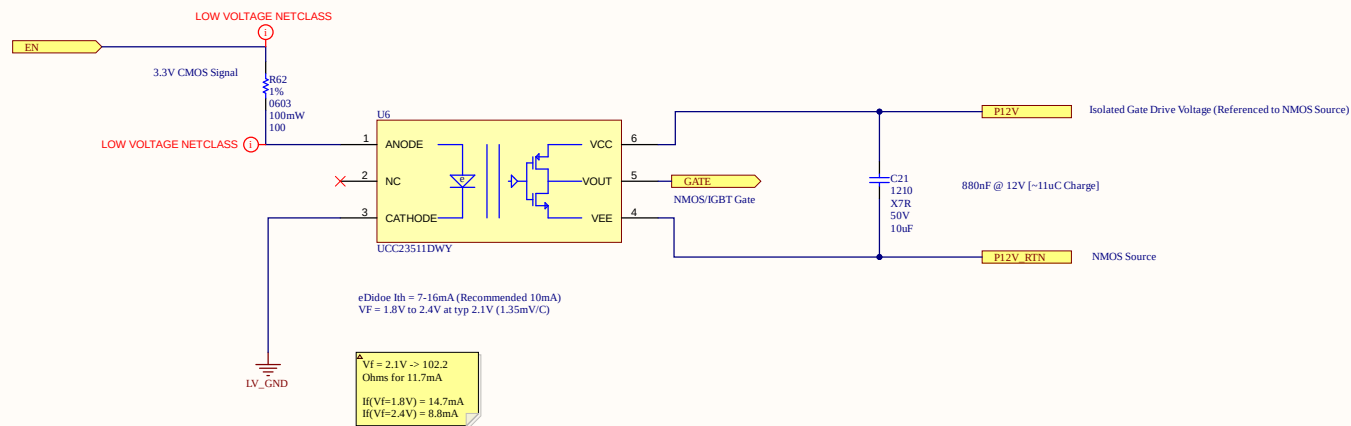
24V LOW VOLTAGE POWER DOMAIN

ISOLATED HIGH VOLTAGE FET DRIVER POWER DOMAIN

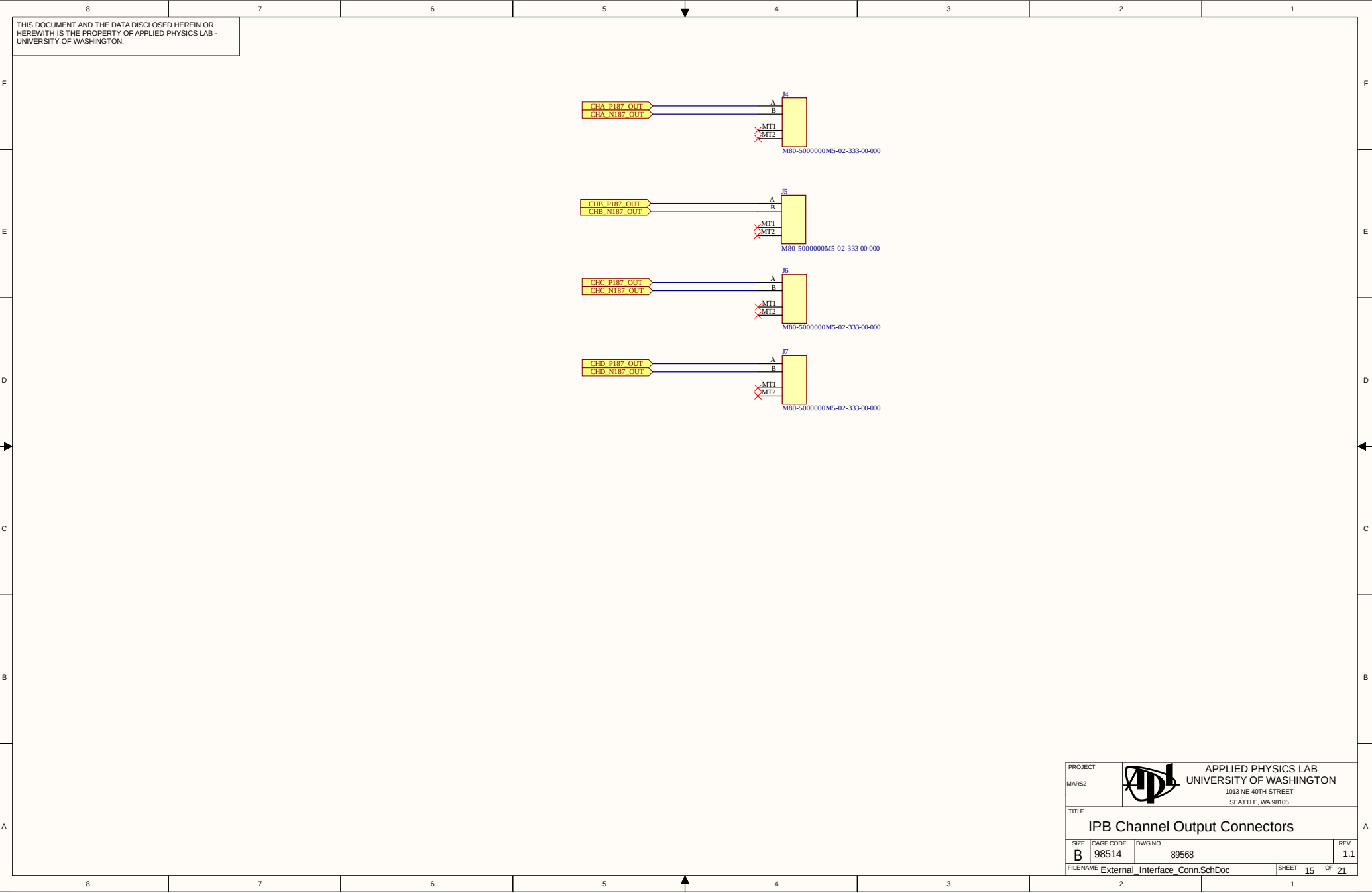


PROJECT		 APPLIED PHYSICS LAB UNIVERSITY OF WASHINGTON 1013 NE 40TH STREET SEATTLE, WA 98105		
MARS2				
TITLE				
Isolated Gate Power Supply				
SIZE	CAGE CODE	DWG NO.	REV	
B	98514	89568	1.1	
FILENAME		SHEET	OF	
Isolated_Gate_Power_Supplies.SchDoc		13	21	

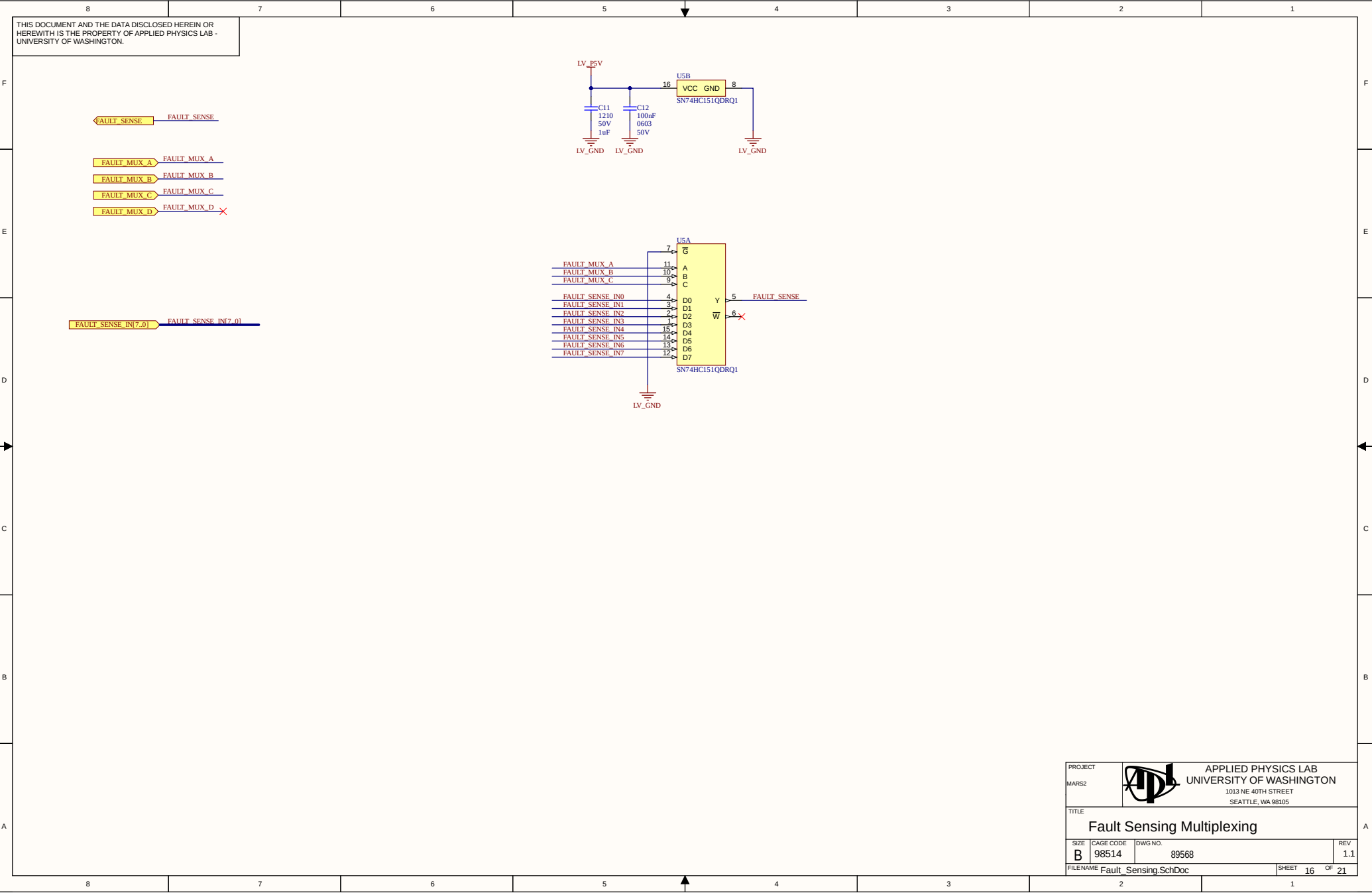
THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.



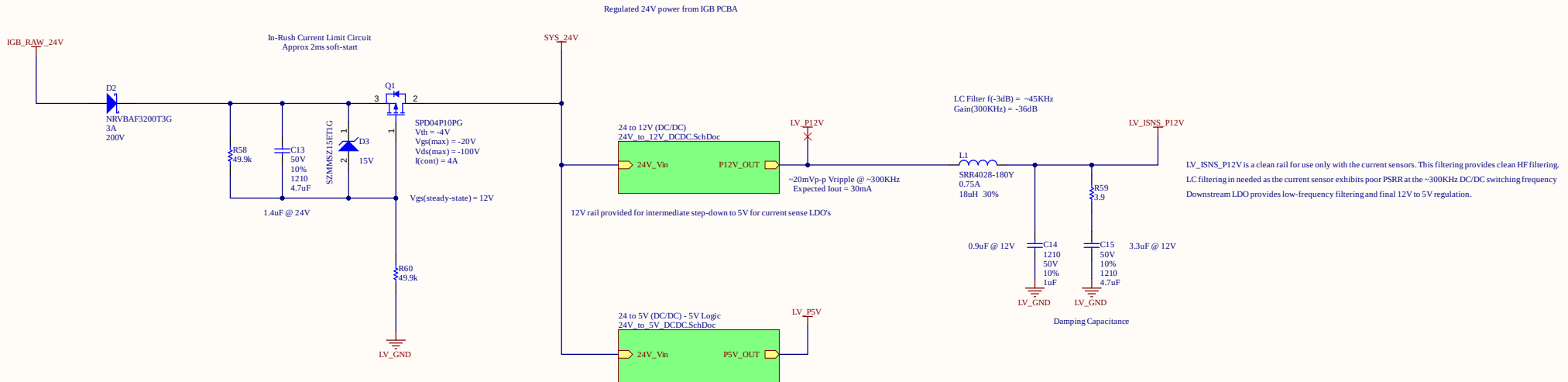
PROJECT		 APPLIED PHYSICS LAB UNIVERSITY OF WASHINGTON 1013 NE 40TH STREET SEATTLE, WA 98105	
MARS2			
TITLE			
Isolated Gate Driver			
SIZE	CAGE CODE	DWG NO.	REV
B	98514	89568	1.1
FILENAME Gate_Driver.SchDoc		SHEET 14	OF 21



PROJECT		APPLIED PHYSICS LAB	
MARS2		UNIVERSITY OF WASHINGTON	
		1013 NE 40TH STREET	
		SEATTLE, WA 98105	
TITLE			
IPB Channel Output Connectors			
SIZE	CAGE CODE	DWG NO.	REV
B	98514	89568	1.1
FILENAME External Interface Conn.SchDoc			SHEET 15 OF 21

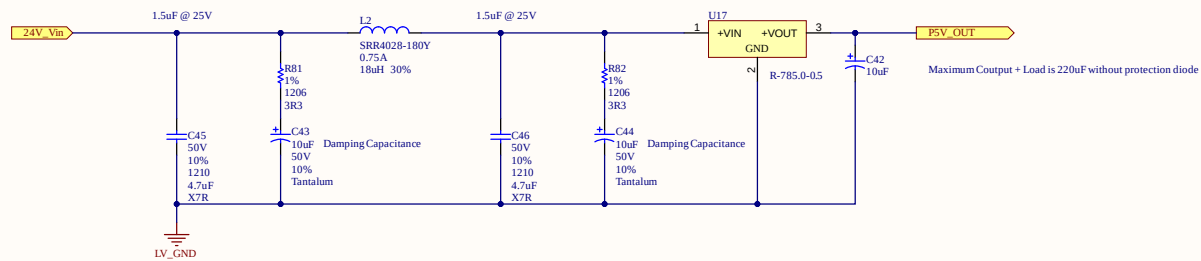


THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.



PROJECT MARS2				APPLIED PHYSICS LAB UNIVERSITY OF WASHINGTON 1013 NE 40TH STREET SEATTLE, WA 98105	
TITLE Local Power Supplies					
SIZE B	CAGE CODE 98514	DWG NO. 89568		REV 1.1	
FILENAME Local_Power_Supplies.SchDoc				SHEET 17	OF 21

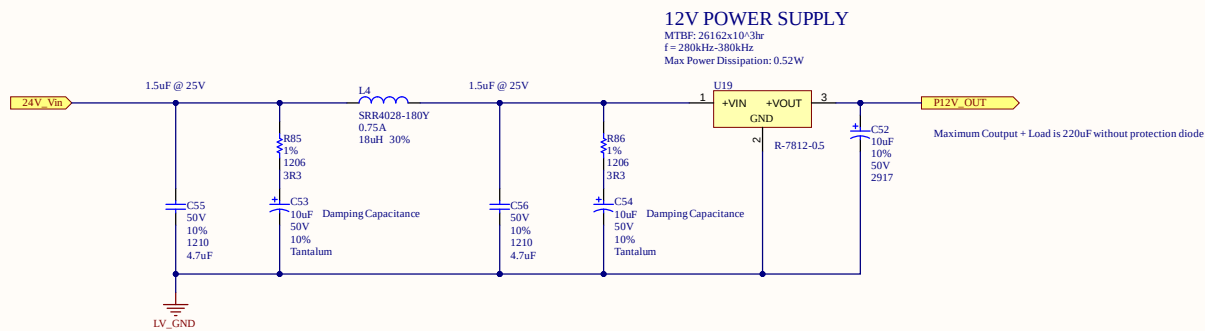
THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.



LC Filter $f(-3dB) \approx 24KHz$
Gain(300KHz) $\approx -40dB$
Damping provide for entire PI filter - Peaks approximately 2dB

PROJECT				*
MARS2				*
				*
				*
TITLE				
24V to 5V DC/DC				
SIZE	CAGE CODE	DWG NO.		REV
B	98514	89568		1.1
FILENAME 24V to 5V DCDC.SchDoc		SHEET 18		OF 21

THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.



LC Filter f(-3dB) = ~24KHz
Gain(300KHz) = -40dB
Damping provide for entire PI filter - Peaks approximately 2dB

PROJECT	MARS2			APL		*	
SIZE	B	CAGE CODE	98514	DWG NO.	89568	REV	1.1
FILENAME	24V to 12V_DCDC.SchDoc					SHEET	19 OF 21

THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB - UNIVERSITY OF WASHINGTON.

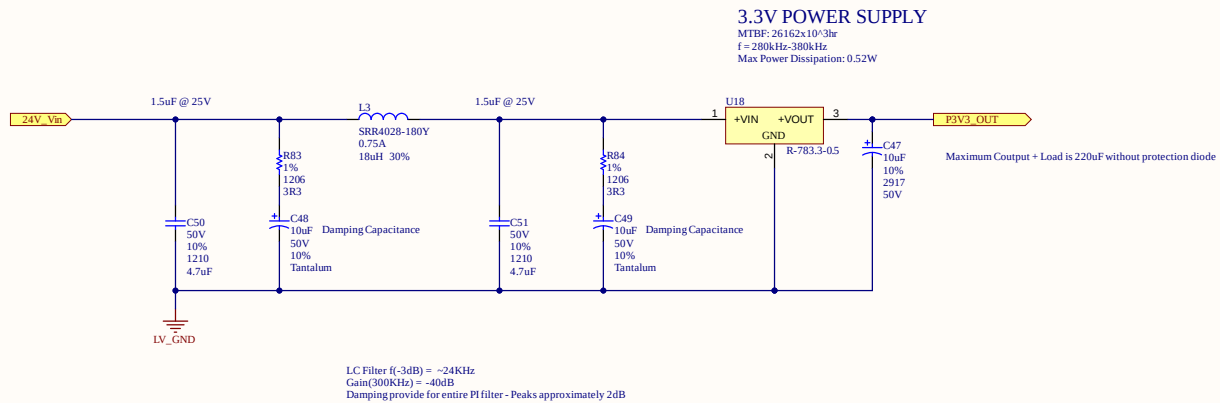
Diagram illustrating the mechanical layout of a system, showing components and their connections.

Components and Connections:

- Modules: MH1, MH2, MH3, MH4, MH5, MH6, MH7, MH9, MH10, MH12, MH13, MH14, MH15, MH16, MH17, MH18, MH19, MH20, MH21, MH22, MH23, MH24, MH25, MH26, MH27, MH28, MH29.
- Connections: MH1-M3, MH2-M3, MH3-M3, MH4-M3, MH5-M3, MH6-M3, MH7-M3, MH9-M3, MH10-M3, MH12-M3, MH13-M3, MH14-M3, MH15-M3, MH16-M3, MH17-M3, MH18-M3, MH19-M3, MH20-M3, MH21-M3, MH22-M3, MH23-M3, MH24-M3, MH25-M3, MH26-M3, MH27-M3, MH28-M3, MH29-M3.
- Chassis Netclass: CHASSIS NETCLASS (indicated by red circles).
- Ground: CGND (indicated by red ground symbols).
- Relay Bracket Mounting: For relay bracket mounting (indicated by blue text).

PROJECT	APPLIED PHYSICS LAB UNIVERSITY OF WASHINGTON 1013 NE 40TH STREET SEATTLE, WA 98105		
MARS2			
TITLE Mechanicals			
SIZE B	CAGE CODE 98514	DWG NO. 89568	REV 1.1
FILENAME Mechanical.SchDoc			SHEET 20 OF 21

THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR
HEREWITH IS THE PROPERTY OF APPLIED PHYSICS LAB -
UNIVERSITY OF WASHINGTON.



PROJECT MARS2		 APPLIED PHYSICS LAB UNIVERSITY OF WASHINGTON 1013 NE 40TH STREET SEATTLE, WA 98105	
TITLE 24V to 3.3V DC/DC			
SIZE B	CAGE CODE 98514	DWG NO. 89568	REV 1.1
FILENAME 24V to 3V3 DCDC.SchDoc		SHEET 21	OF 21

CGND/ROUTING	
P187 BULK / 12V RTN	
INT ROUTING	
INT ROUTING	P187
N187 BULK / 12V RTN	
CGND/ROUTING	N187
	P187
	N187
	P187
	N187
	P187
	N187

