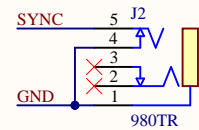
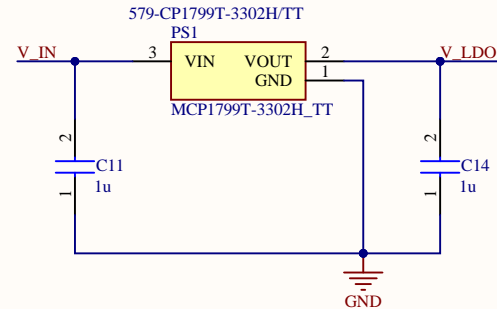


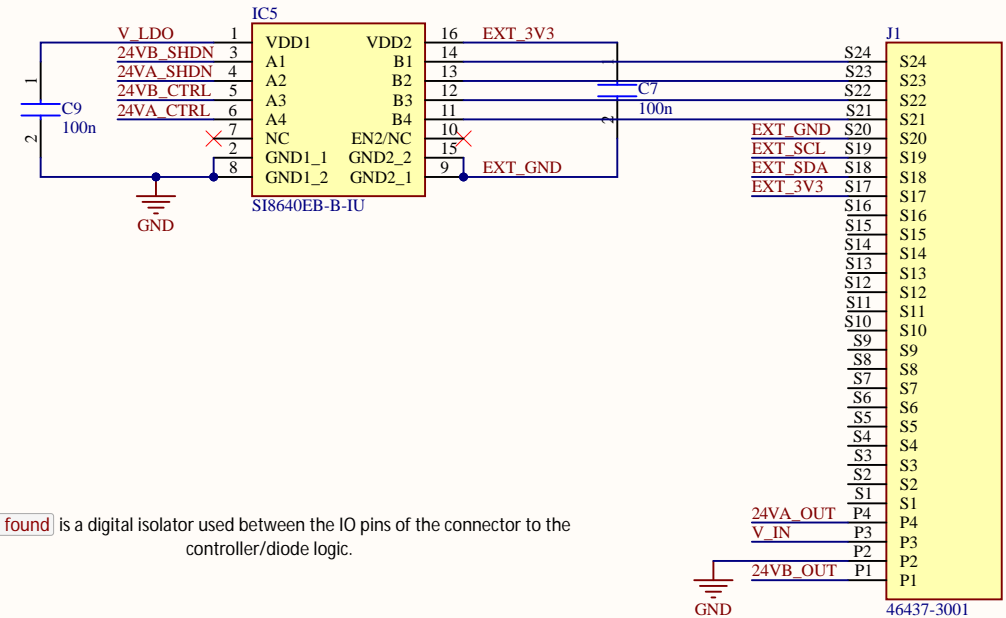
A



J2 is an audio jack connector to synchronize multiple instances of the buck-boost controllers (for redundancy and parallelizing power supplies).



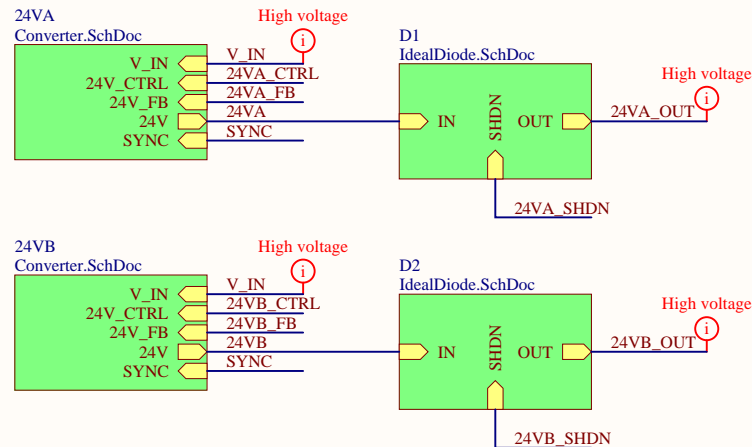
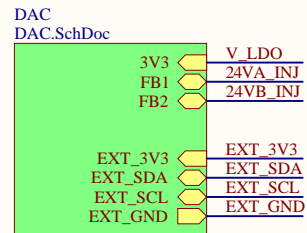
Not found is a 80mA LDO to power the digital isolators and the DAC.



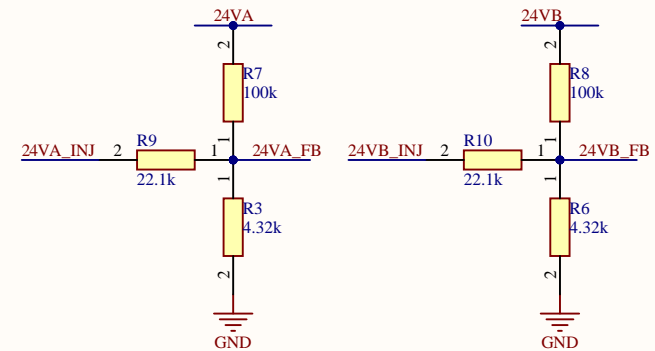
Not found is a digital isolator used between the IO pins of the connector to the controller/diode logic.

B

C



Buck-boost top-level with ideal diodes.



Here, a DAC injects current into the feedback loop of the DC/DC converters.
Feedback reference: 0.8V
The voltage span is $(R7+R3)/R20 \cdot 0.8V$

D

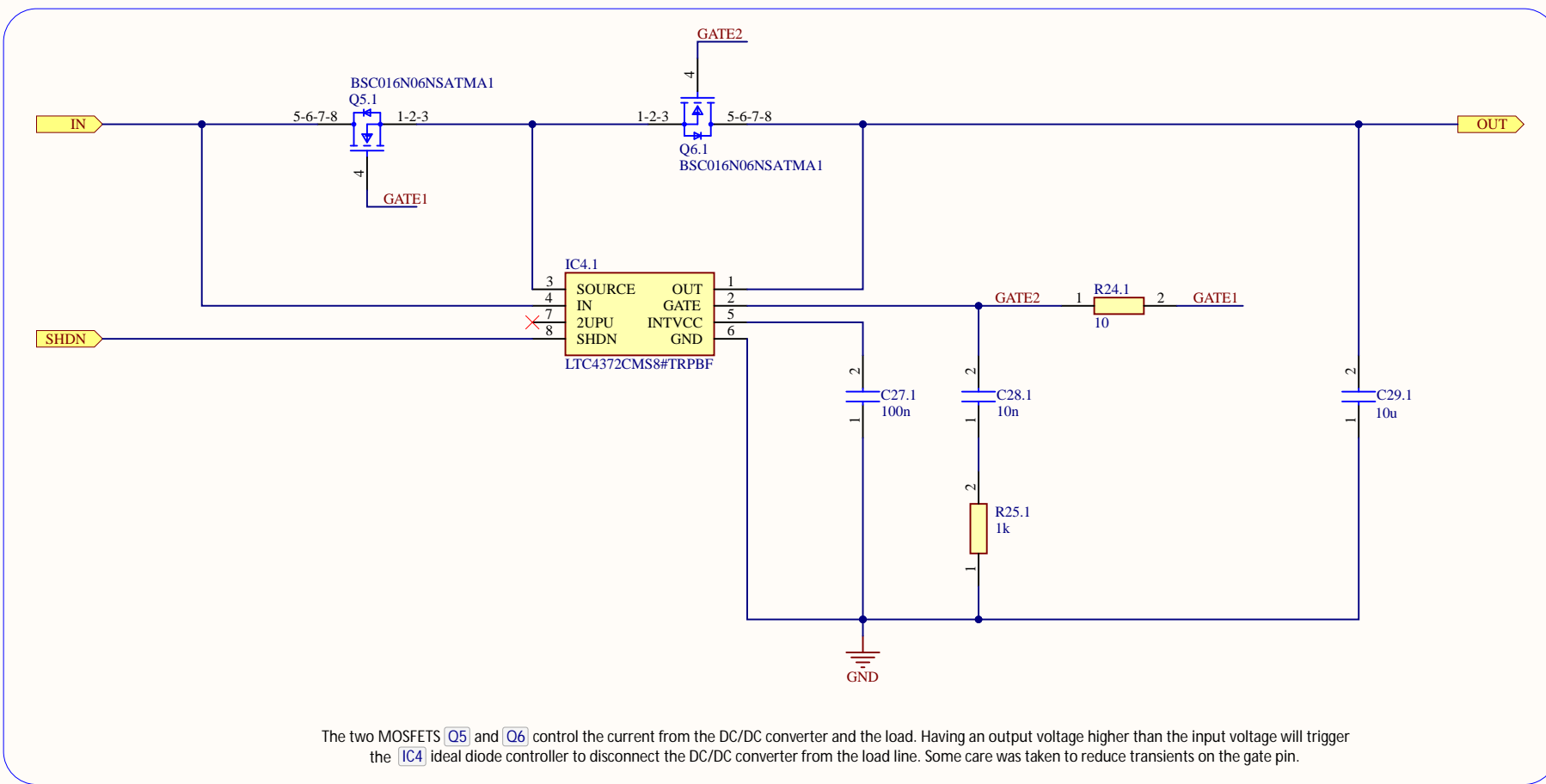
Title		
High-voltage Power Module (Nominal voltages: 24V/24V)		
Size	Number	Revision
A4	1	1
Date:	4.04.2023	Sheet of EPFL Xplore
File:	\\.\Module.SchDoc	Drawn By: Arion Zimmermann

A

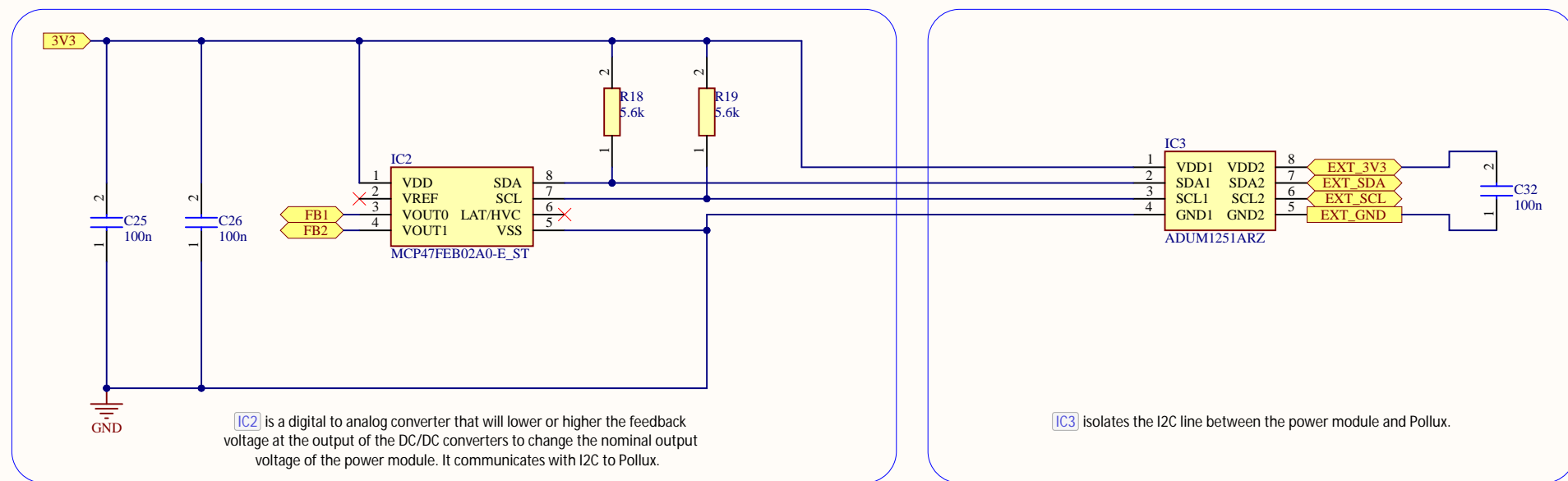
B

C

D



Title Ideal Diode		
Size A4	Number 1	Revision 1
Date: 4.04.2023	Sheet of EPFL Xplore	
File: \\.\IdealDiode.SchDoc	Drawn By: Arion Zimmermann	



Title Isolated Digital-to-Analog Converter		
Size A4	Number 1	Revision 1
Date: 4.04.2023	Sheet of EPFL Xplore	
File: \\.\DAC.SchDoc	Drawn By: Arion Zimmermann	

A

B

C

D

2

3

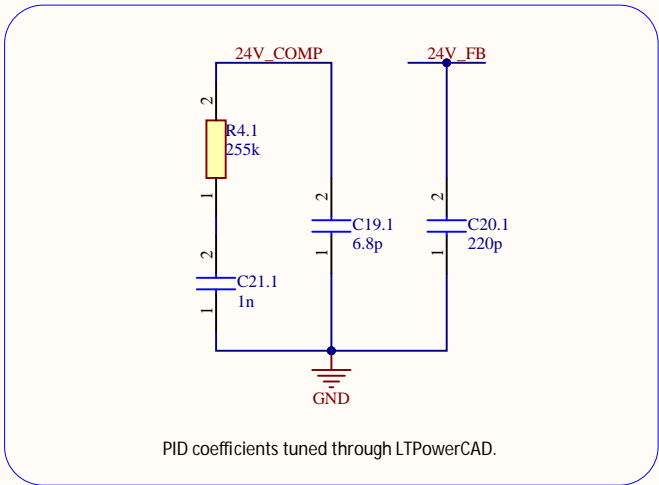
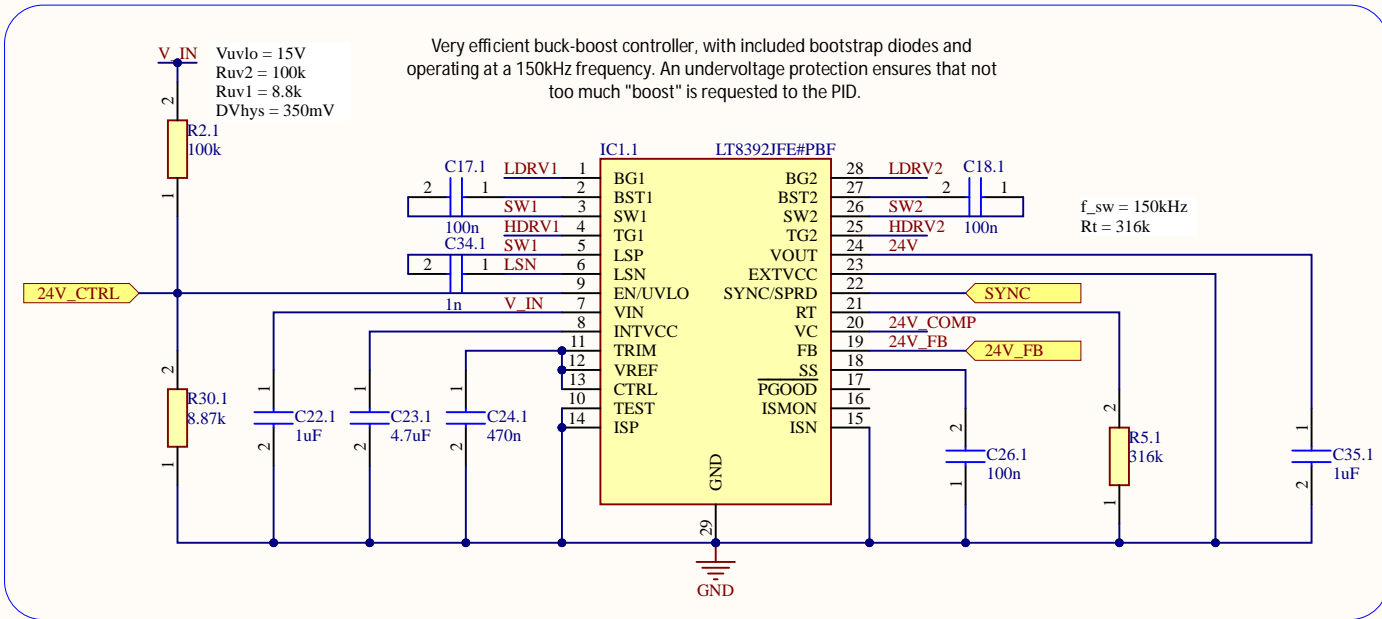
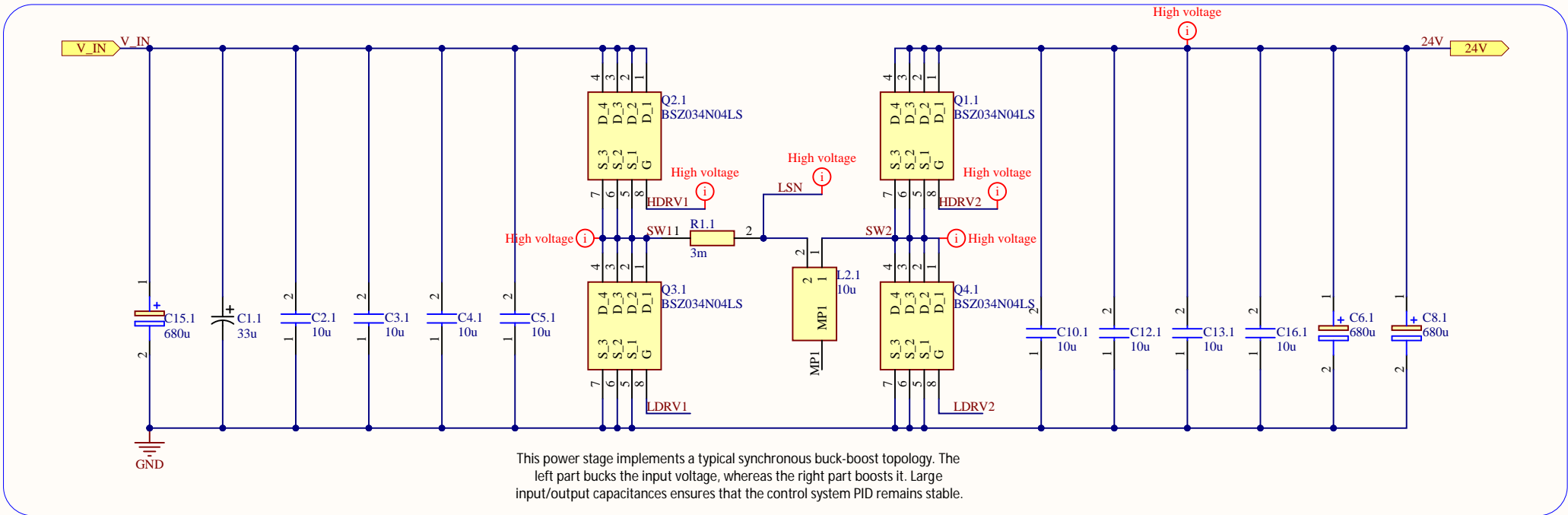
4

A

B

C

D



Title		
Power Module Buck-Boost Converter (Nominal 20V:30V -> 24V)		
Size	Number	Revision
A4	1	1
Date:	4.04.2023	Sheet of EPFL Xplore
File:	\\.\Converter.SchDoc	Drawn By: Arion Zimmermann

