[1] Cover Page

BLDC Motor Driver

Variant: CHECKED

2025-03-17
Rev 1.0

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TOP VIEW

BOTTOM VIEW

NOTES

DRAFT - Very early stage of schematic, ignore details.
PRELIMINARY - Close to final schematic.
CHECKED - There shouldn't be any mistakes. Contact the engineer if you find any.
RELEASED - A board whit this schematic has been sent to production.

CHECKED 17 - 03 - 2025

DESIGN NOTE:
Example text for informational deisng notes.

DESIGN NOTE:
Example text for dubeg notes

DESIGN NOTE:
Example text for cauitonary design notes

DESIGN NOTE:
Example text for critical design notes

LAYOUT NOTE:
Example text for critical layout guidlines.

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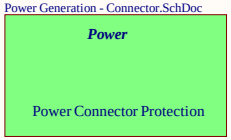
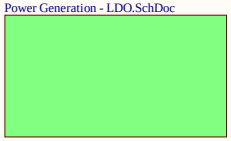
[2] Block Diagram

U_Power Generation - Connector
Power Generation - Connector.SchDoc

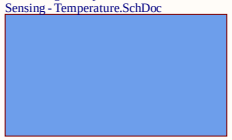


U_Power Generation - Buck Converter
Power Generation - Buck Converter.SchDoc

U_Power Generation - LDO
Power Generation - LDO.SchDoc



U_Sensing - Temperature
Sensing - Temperature.SchDoc



U_Sensing - Voltage
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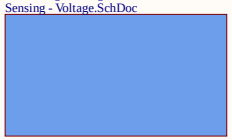

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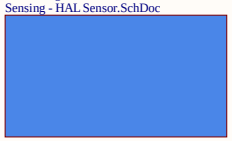
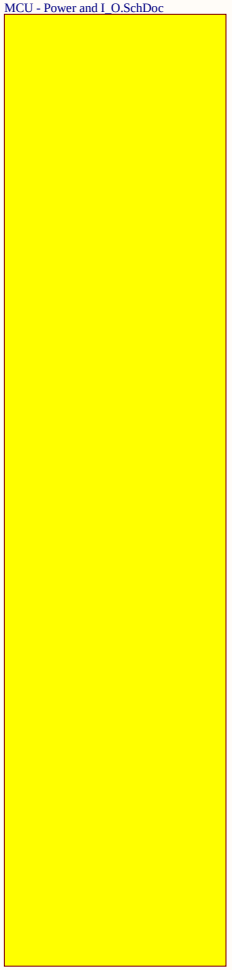
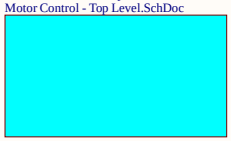


U_MCU - Power and I_O
MCU - Power and I_O.SchDoc



U_Motor Control - Top Level
Motor Control - Top Level.SchDoc



U_Motor Control - Phase A
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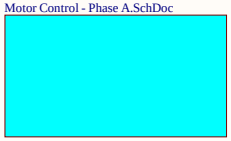

U_Motor Control - Phase B
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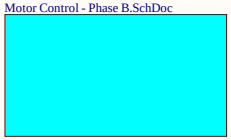

U_Interface - BLDC Connection
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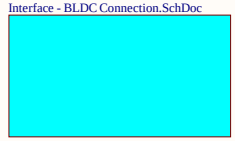

U_Motor Control - Phase C
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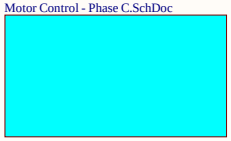

U_User - User Interface
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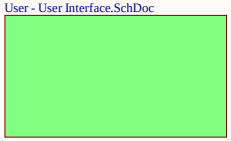

U_Interface - SWD
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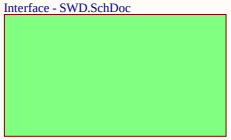
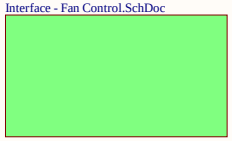
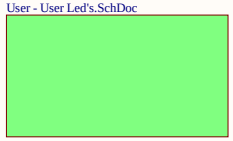


U_Interface - RS485
Interface - RS485.SchDoc

U_Interface - Fan Control
Interface - Fan Control.SchDoc



U_User - User Led's
User - User Led's.SchDoc



U_Interface - CAN
Interface - CAN.SchDoc

U_Interface - USB-C
Interface - USB-C.SchDoc

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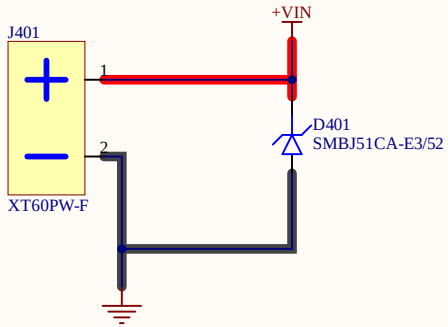
[3] Power Generation - Connector



Power Connector Protection

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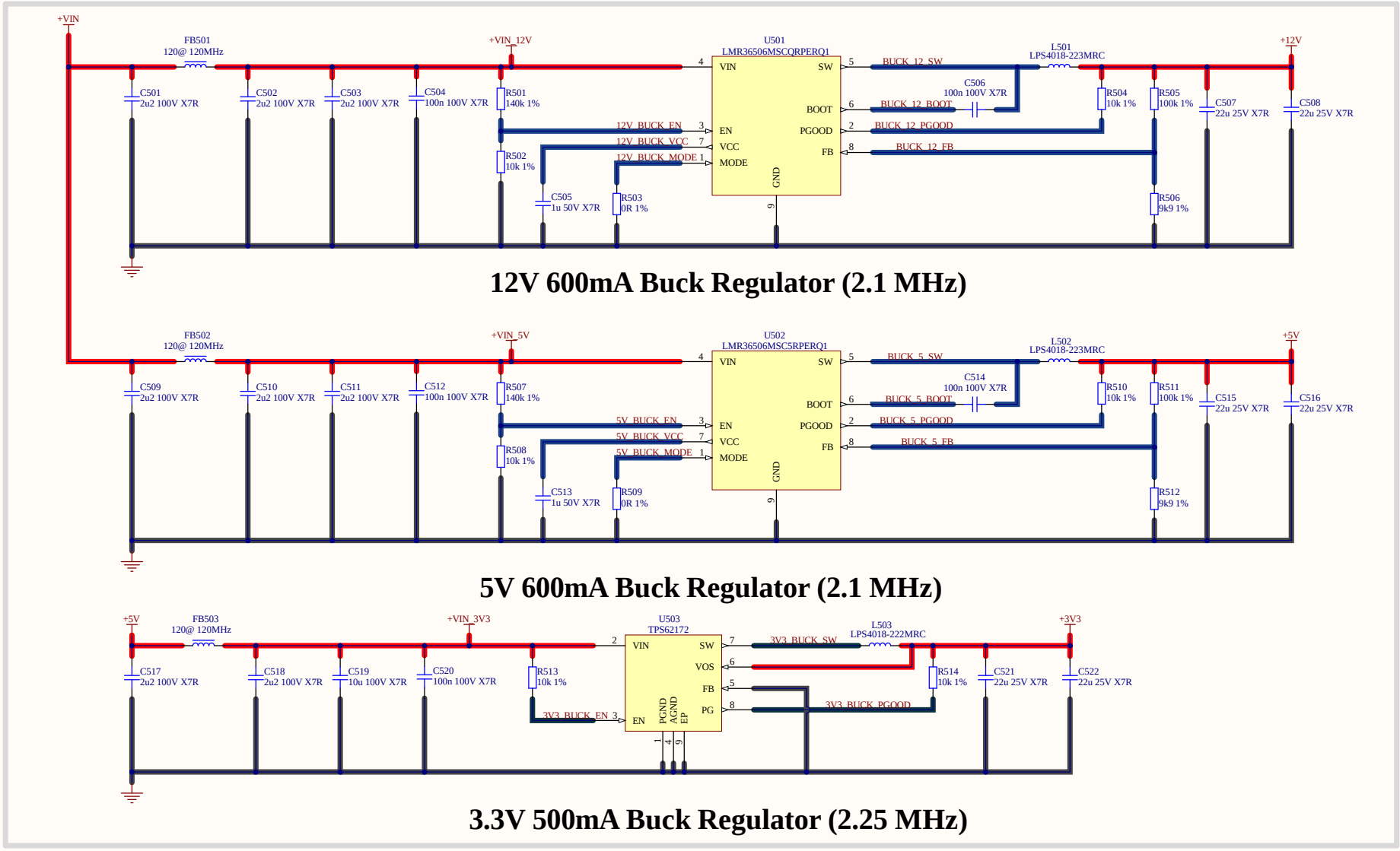
[5] Power Generation - Buck Converter



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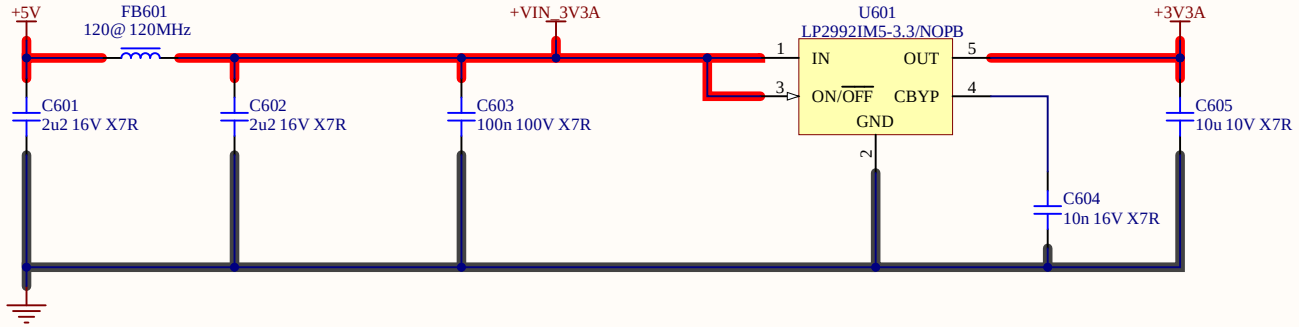
[6] Power Generation - LDO



LDO Analouge Supply

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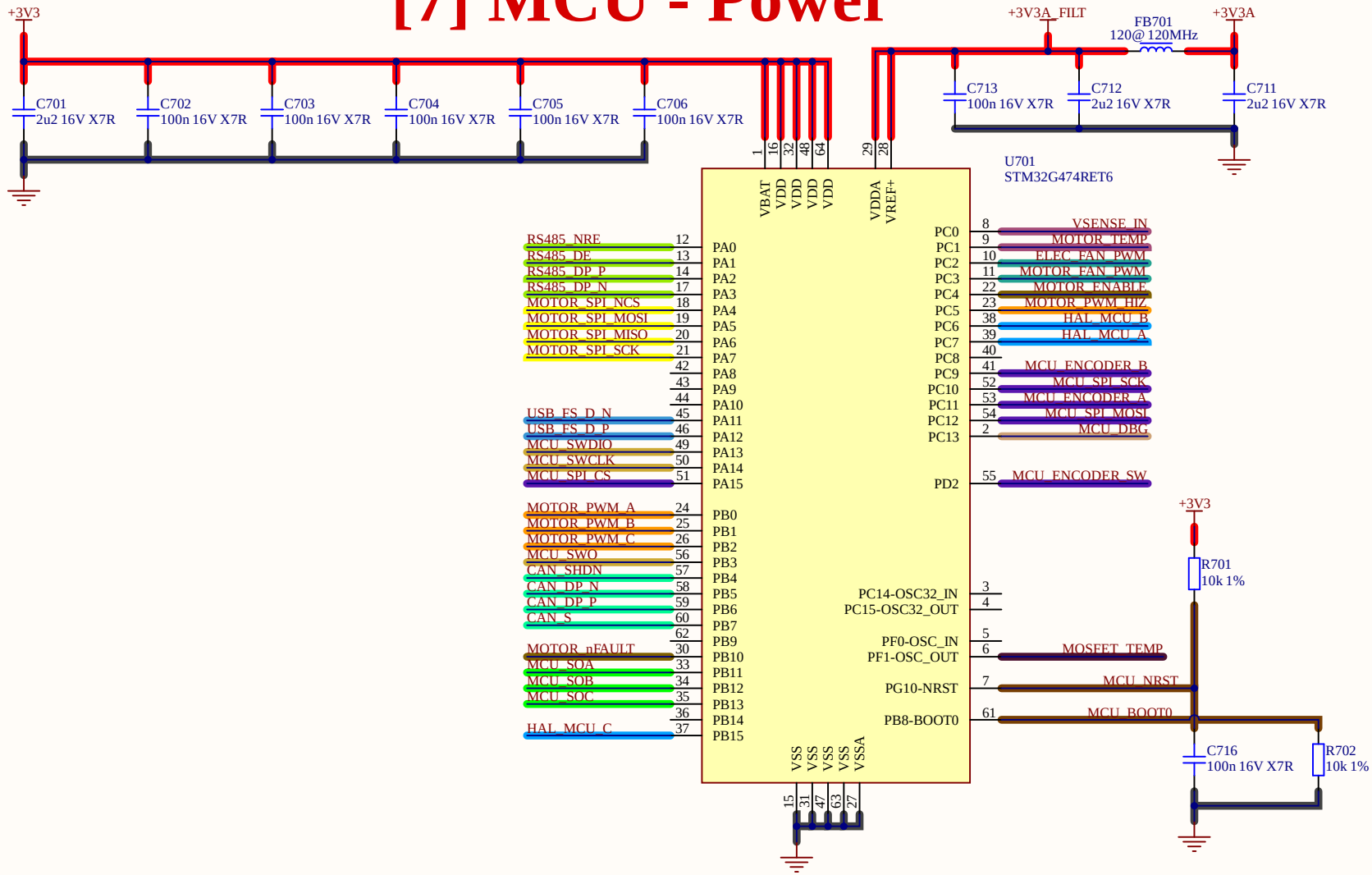
[7] MCU - Power



STM32G4 Microcontroller

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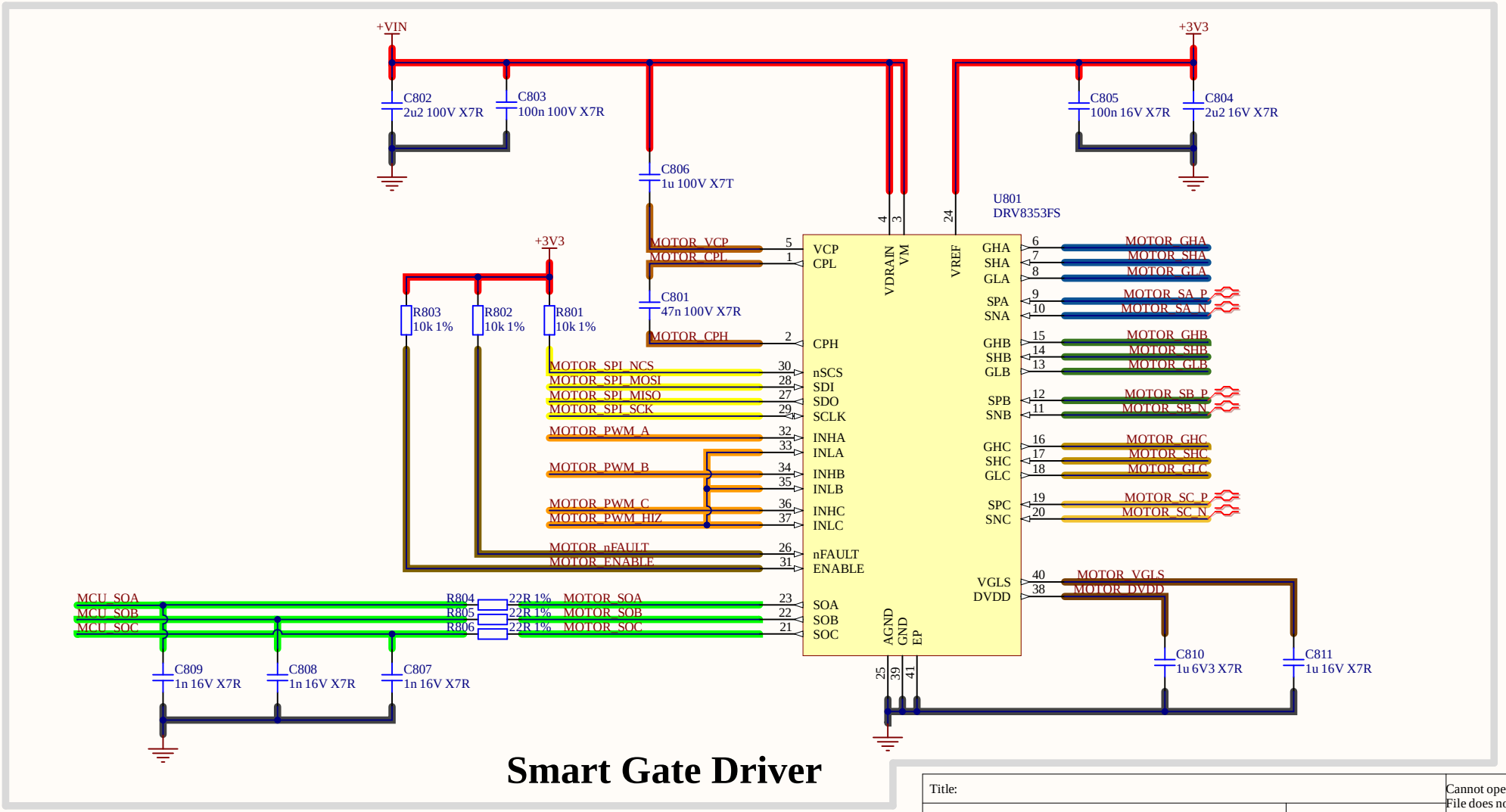
[8] Motor Control - Top Level



Smart Gate Driver

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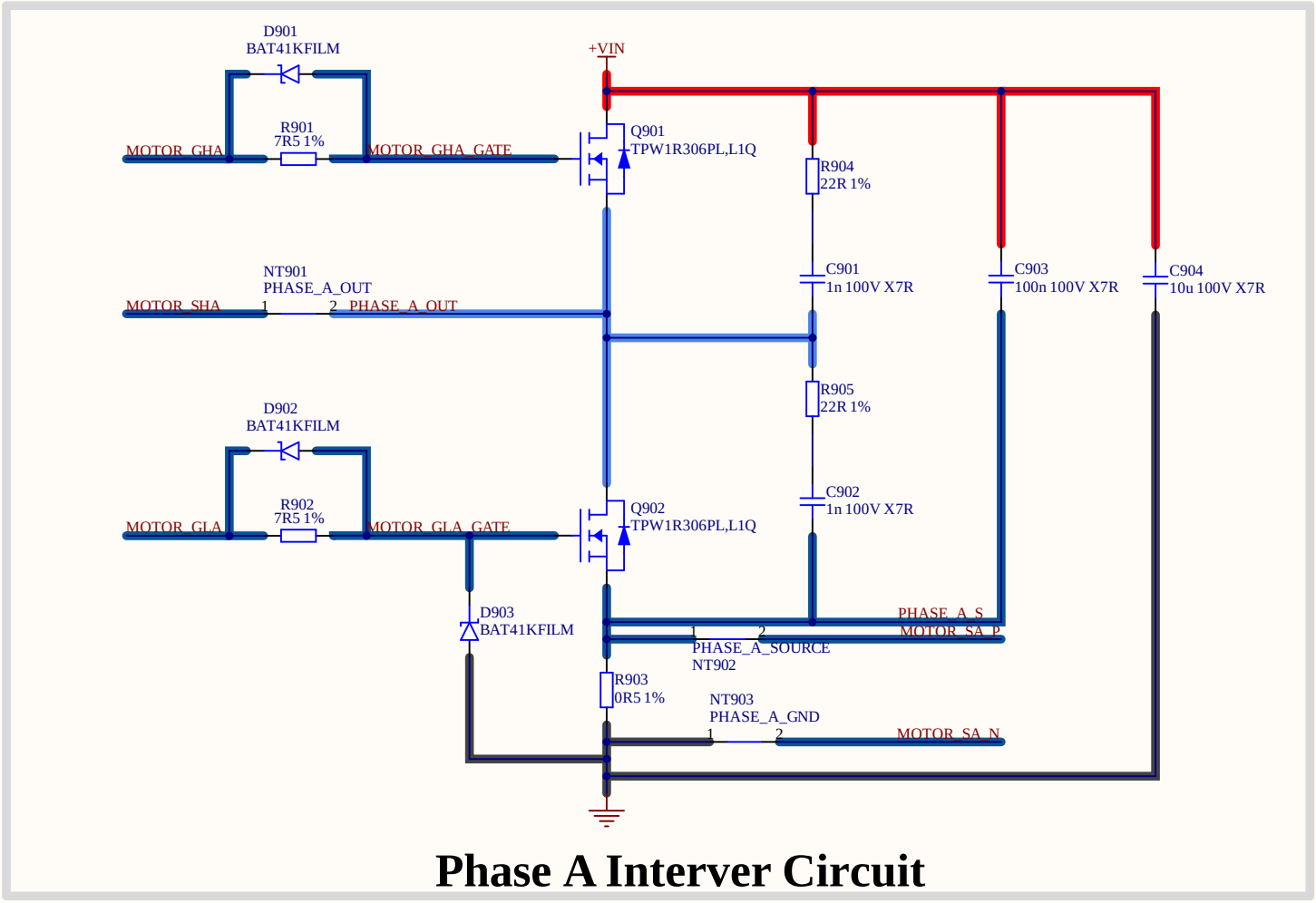
[9] Motor Control - Phase A



Phase A Interver Circuit

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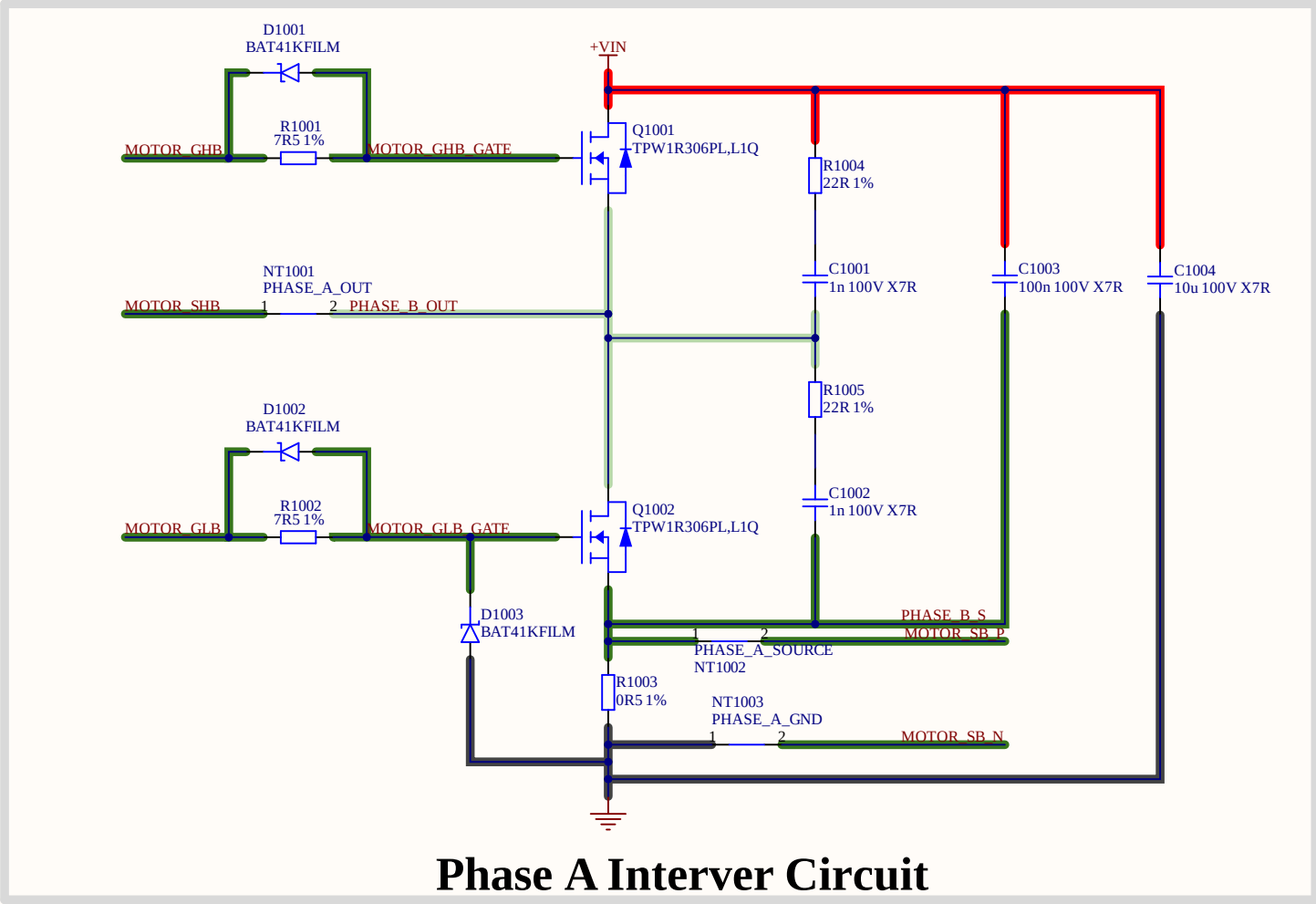
[10] Motor Control - Phase B



Phase A Interver Circuit

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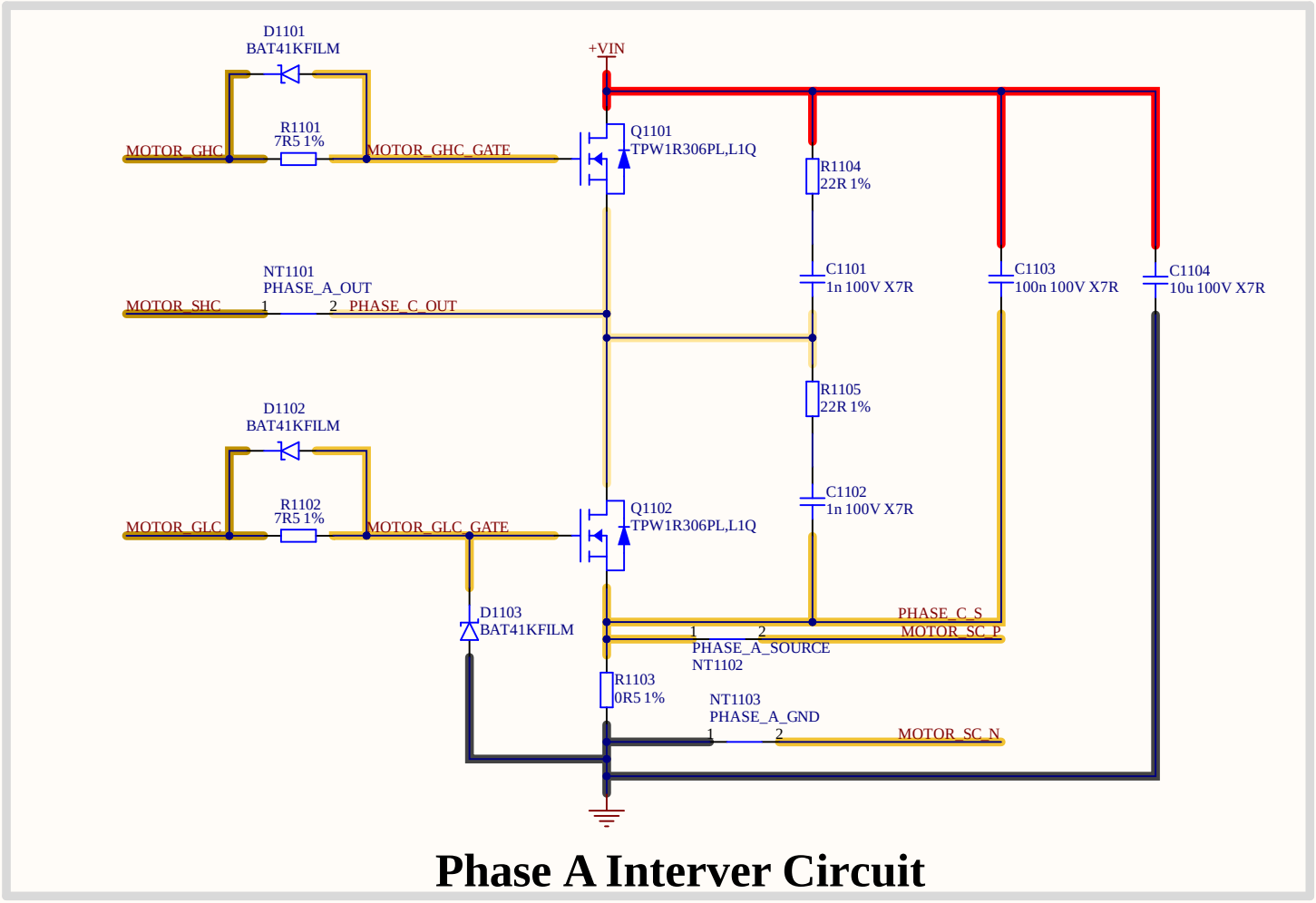
[11] Motor Control - Phase C



Phase A Interver Circuit

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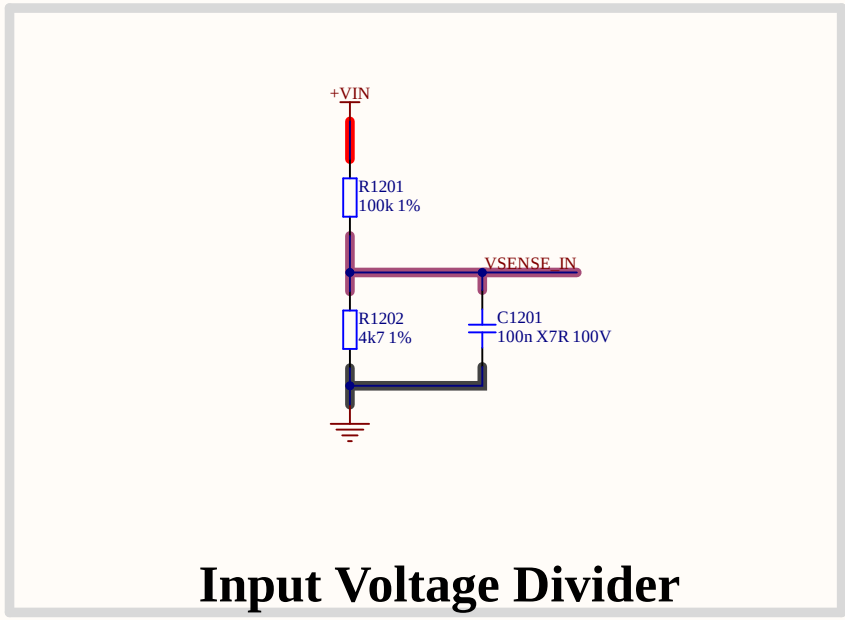
[12] Sensing - Voltage



Input Voltage Divider

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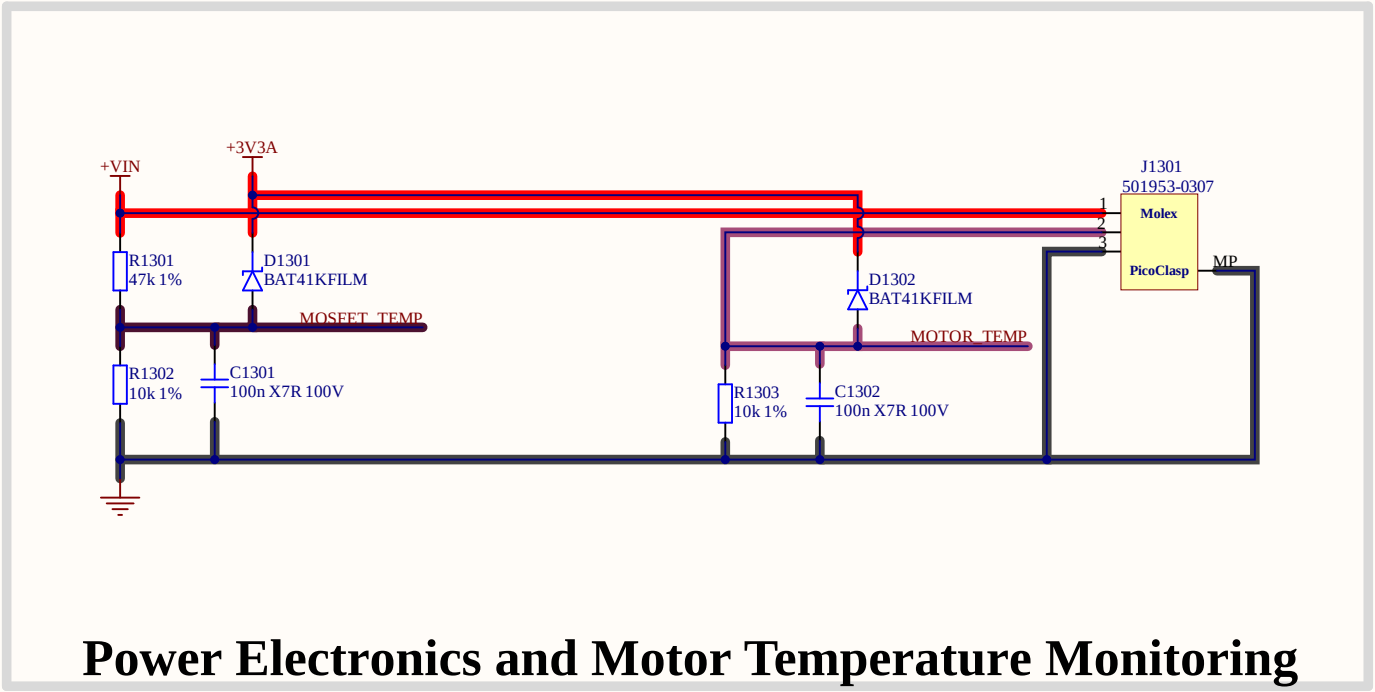
[13] Sensing - Temperature



Power Electronics and Motor Temperature Monitoring

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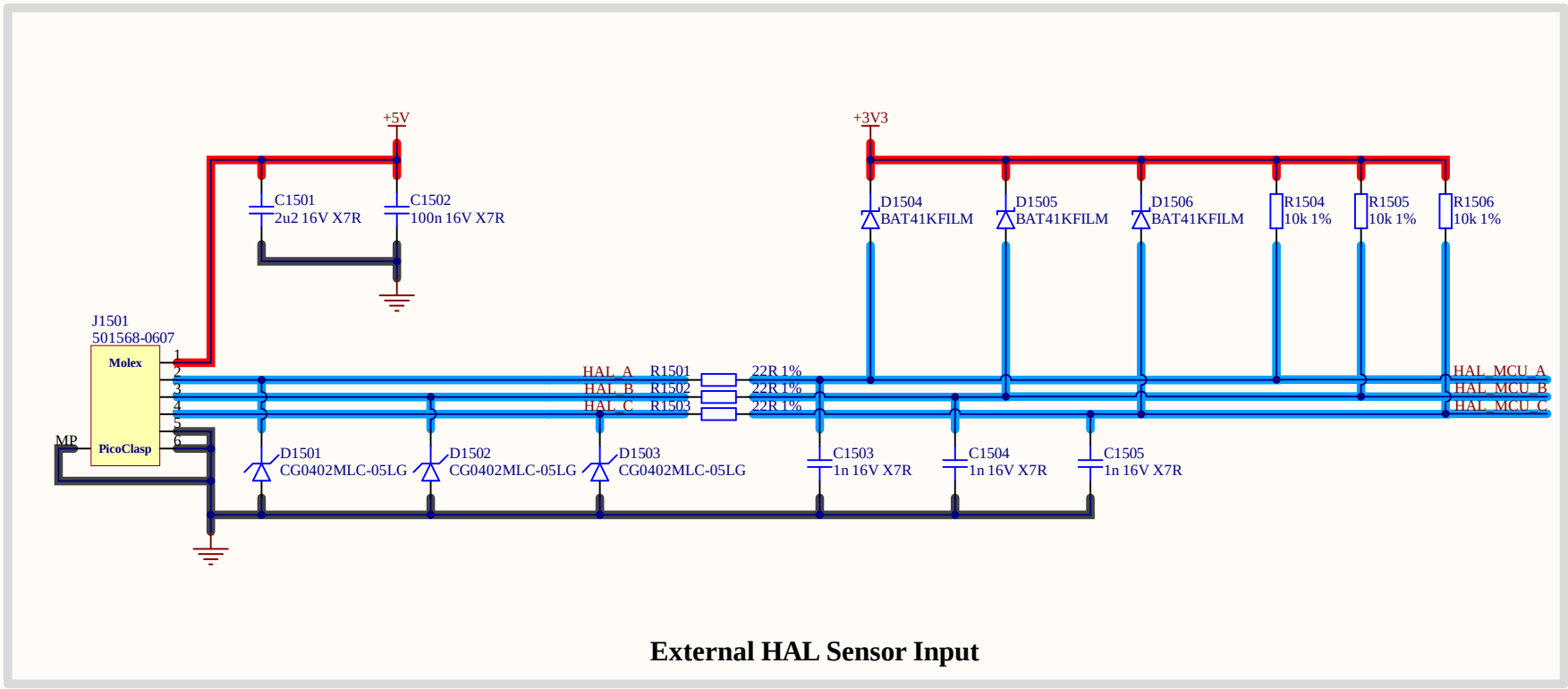
[15] Sensing - HAL Sensor



External HAL Sensor Input

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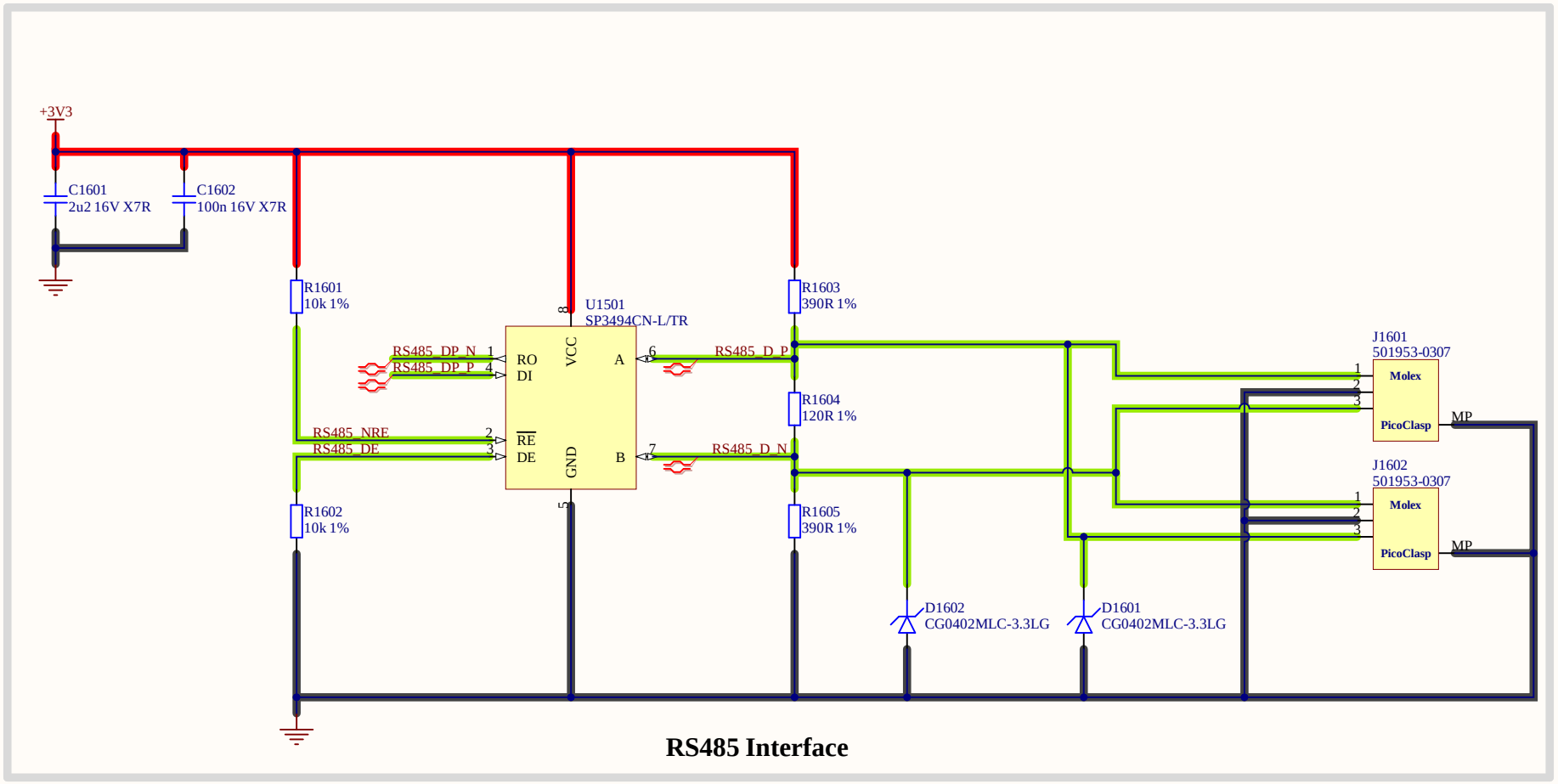
[16] Interface - RS485



RS485 Interface

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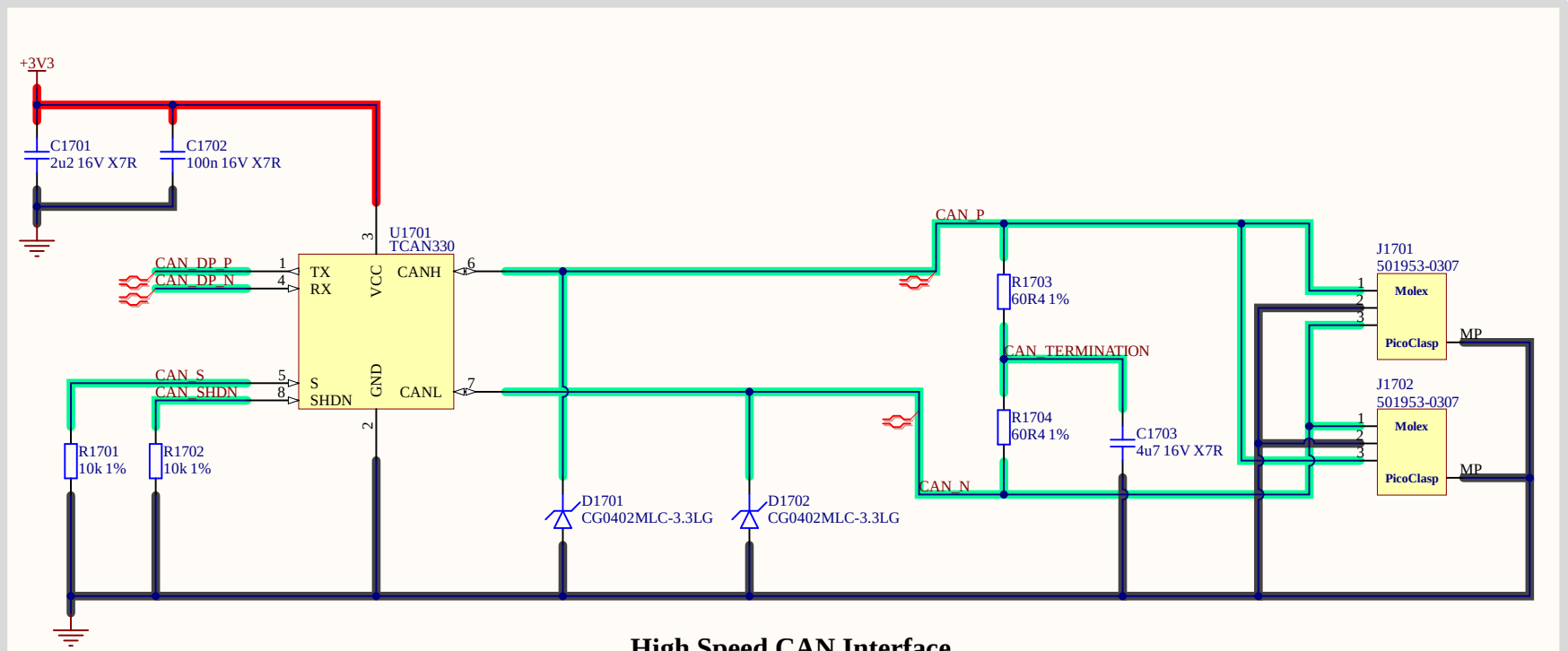
[17] Interface - CAN



High Speed CAN Interface

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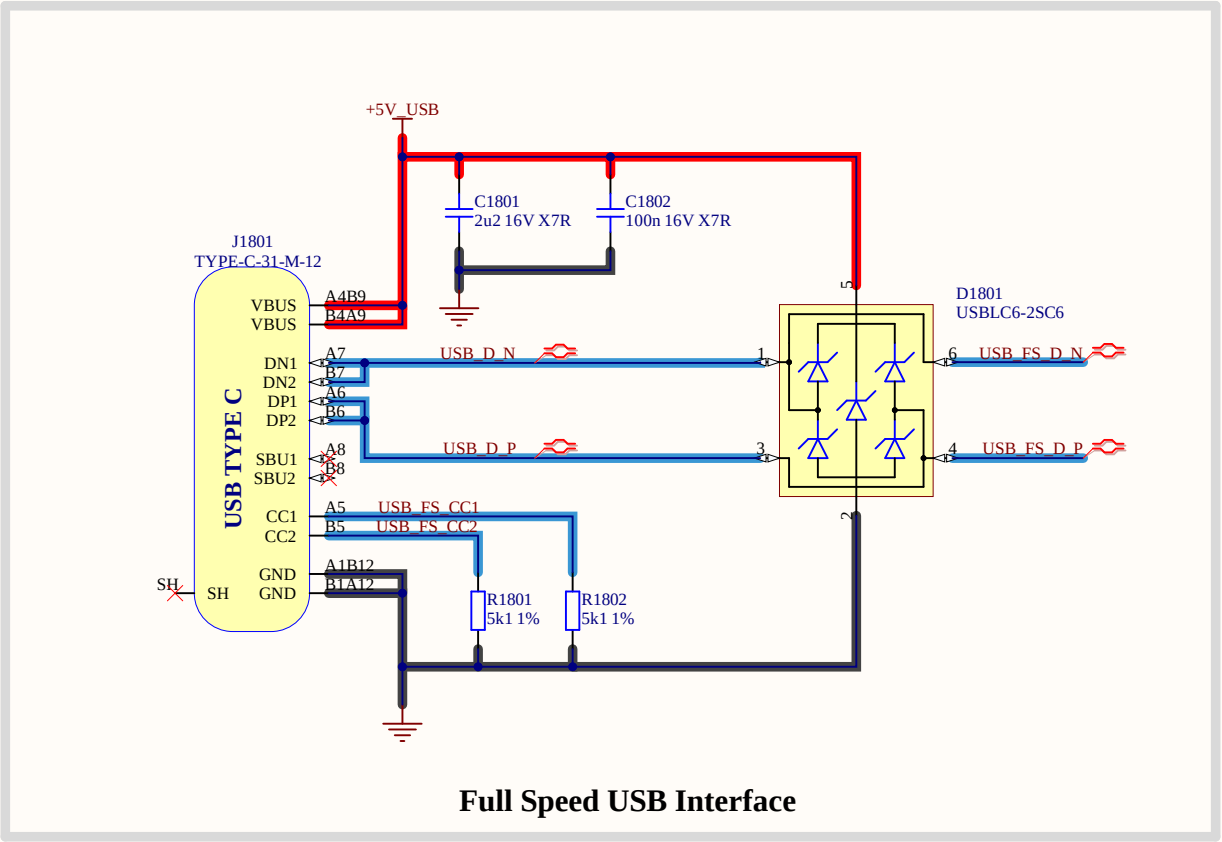
[18] Interface - USB-C



Full Speed USB Interface

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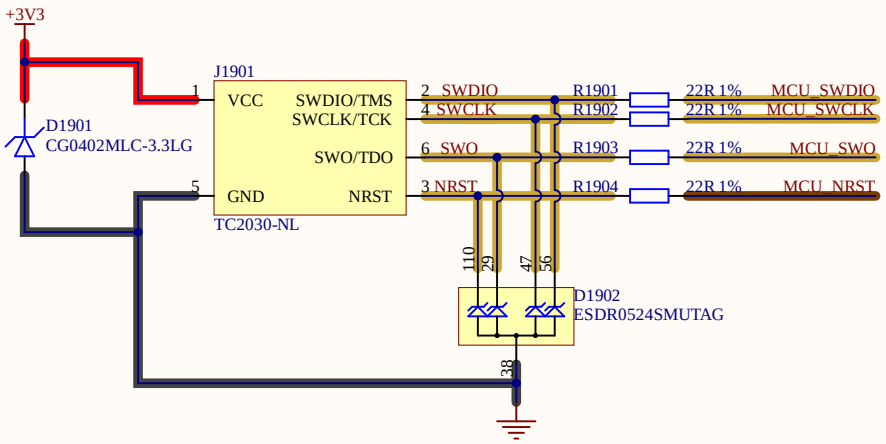
[19] Interface - SWD



Serial Wide Debug Interface

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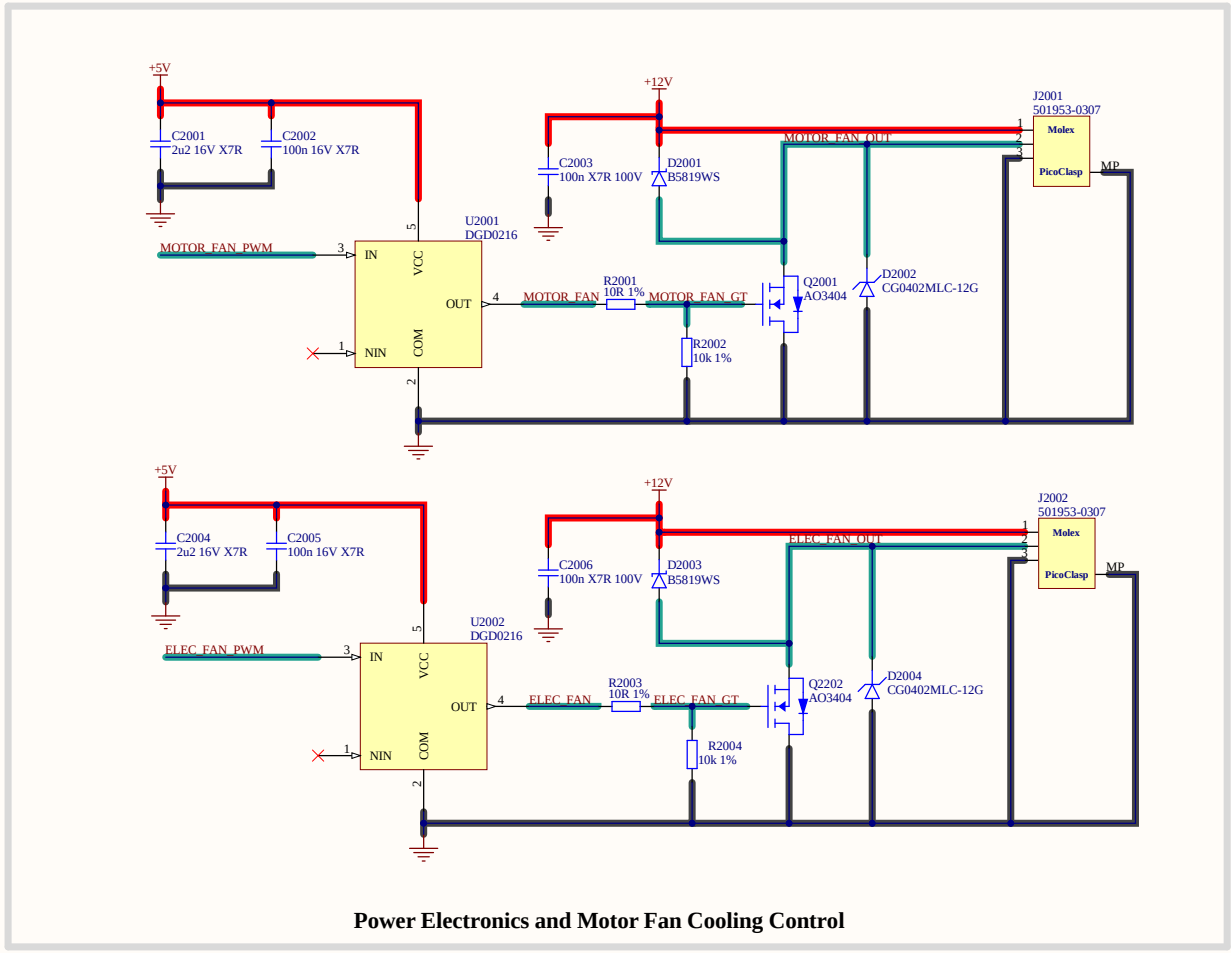
[20] Interface - Fan Control



Power Electronics and Motor Fan Cooling Control

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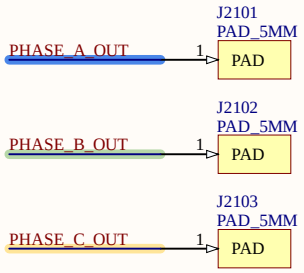
[21] Interface - BLDC Connection



BLDC Motor Solder Connection

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Page Contents: Interface - BLDC Connection.SchDoc			
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Size: A4	Number: 21	Revision:	
Date: 17/03/2025	Time: 16:35:57	Sheet 19 of	
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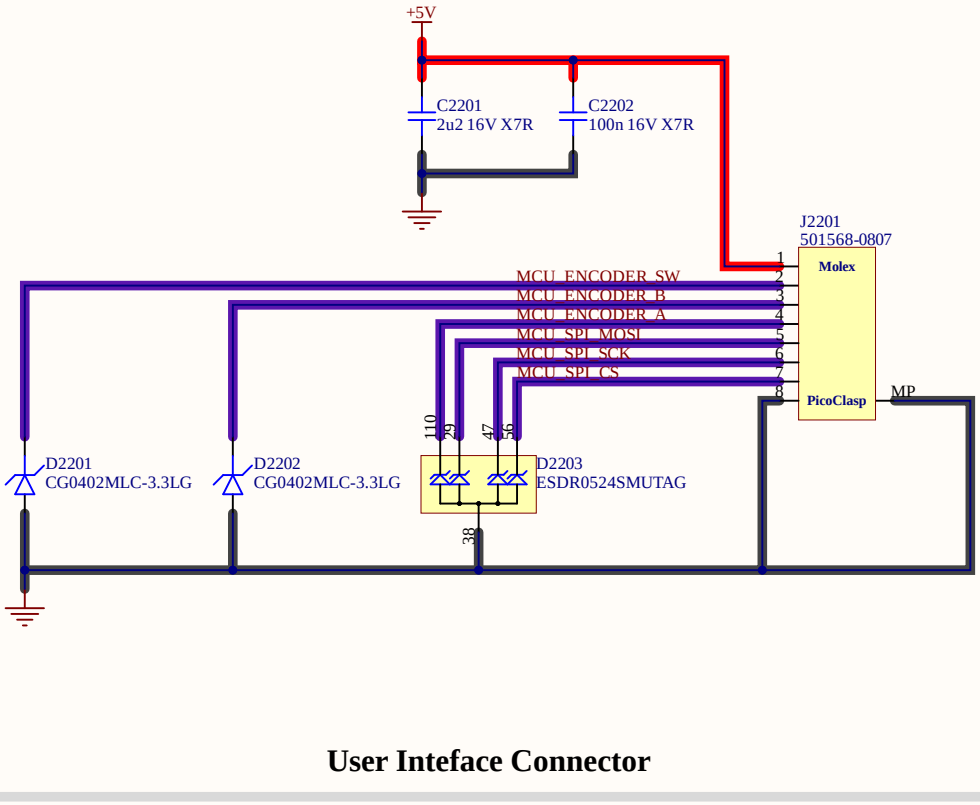
[22] User - User Interface



User Inteface Connector

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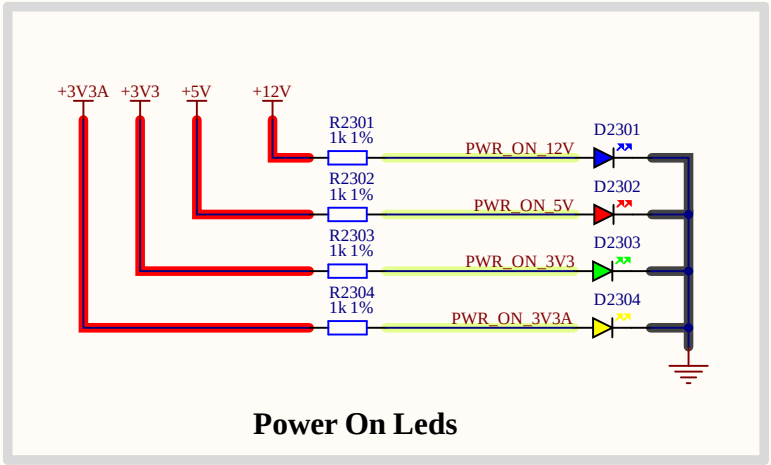
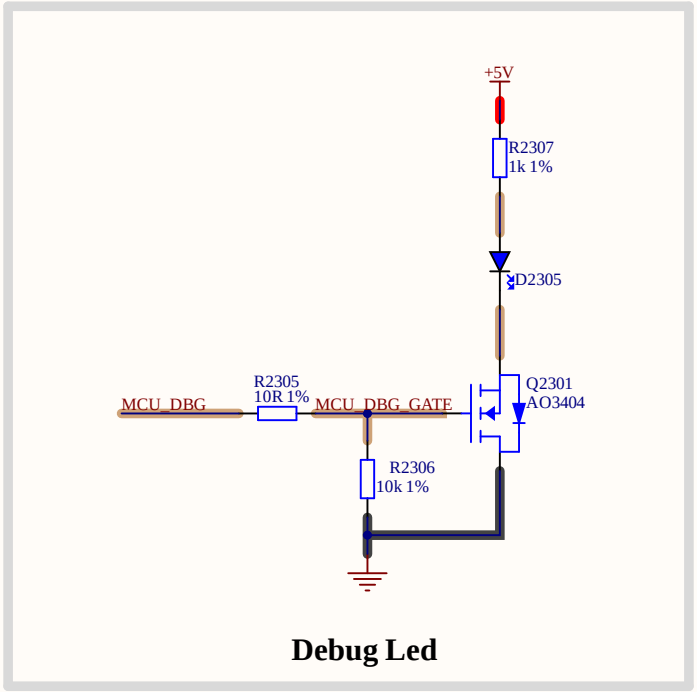
[23] User - User Led's



Power On Leds



Debug Led

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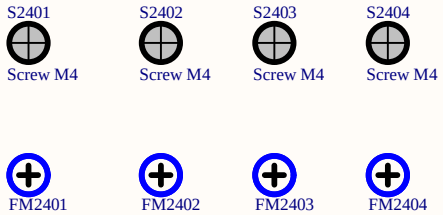
[24] Misc - Holes, Fiducials



Screw Terminals and Fiducials

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[25] Power - Sequencing

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[25] Revision History

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