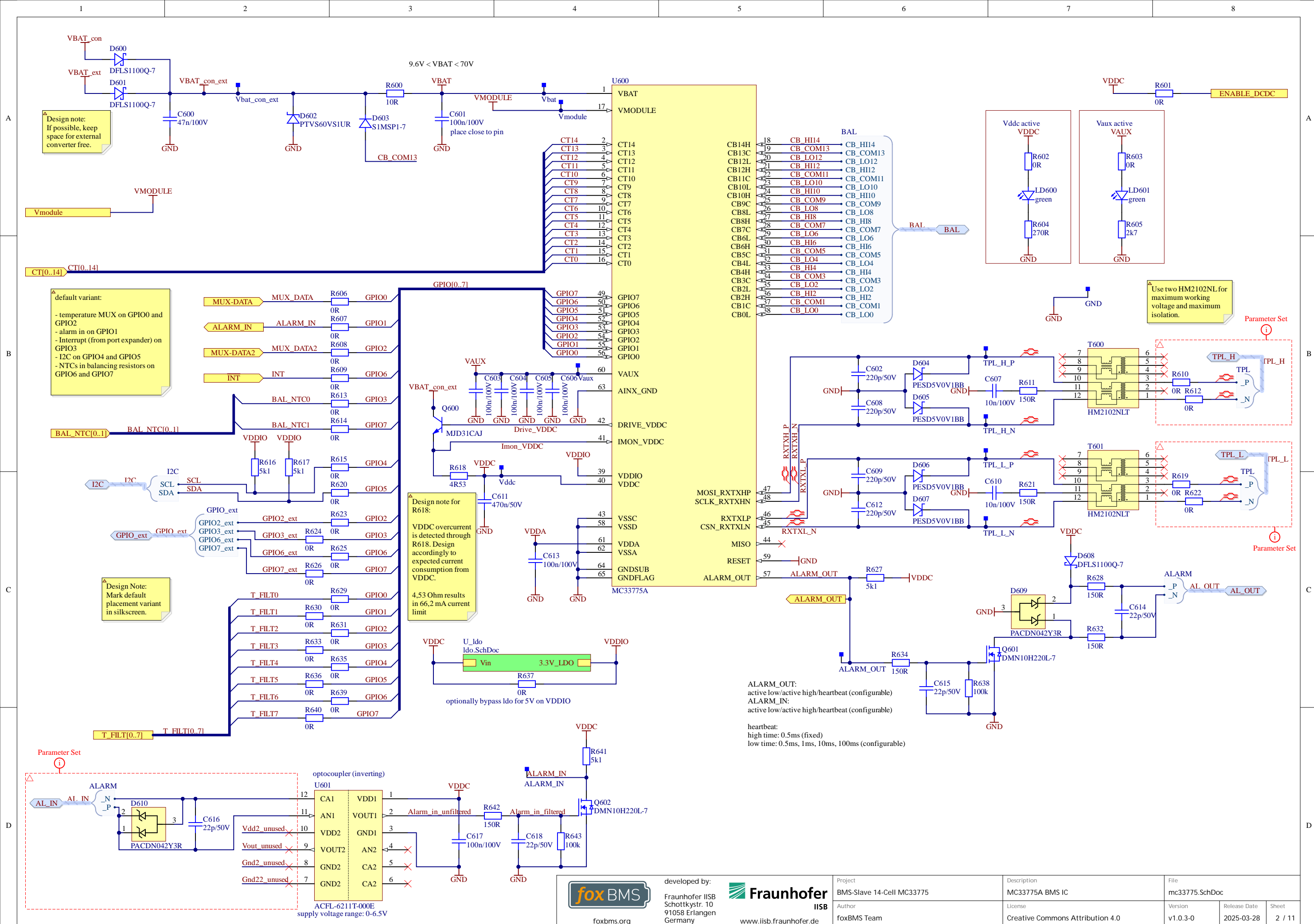
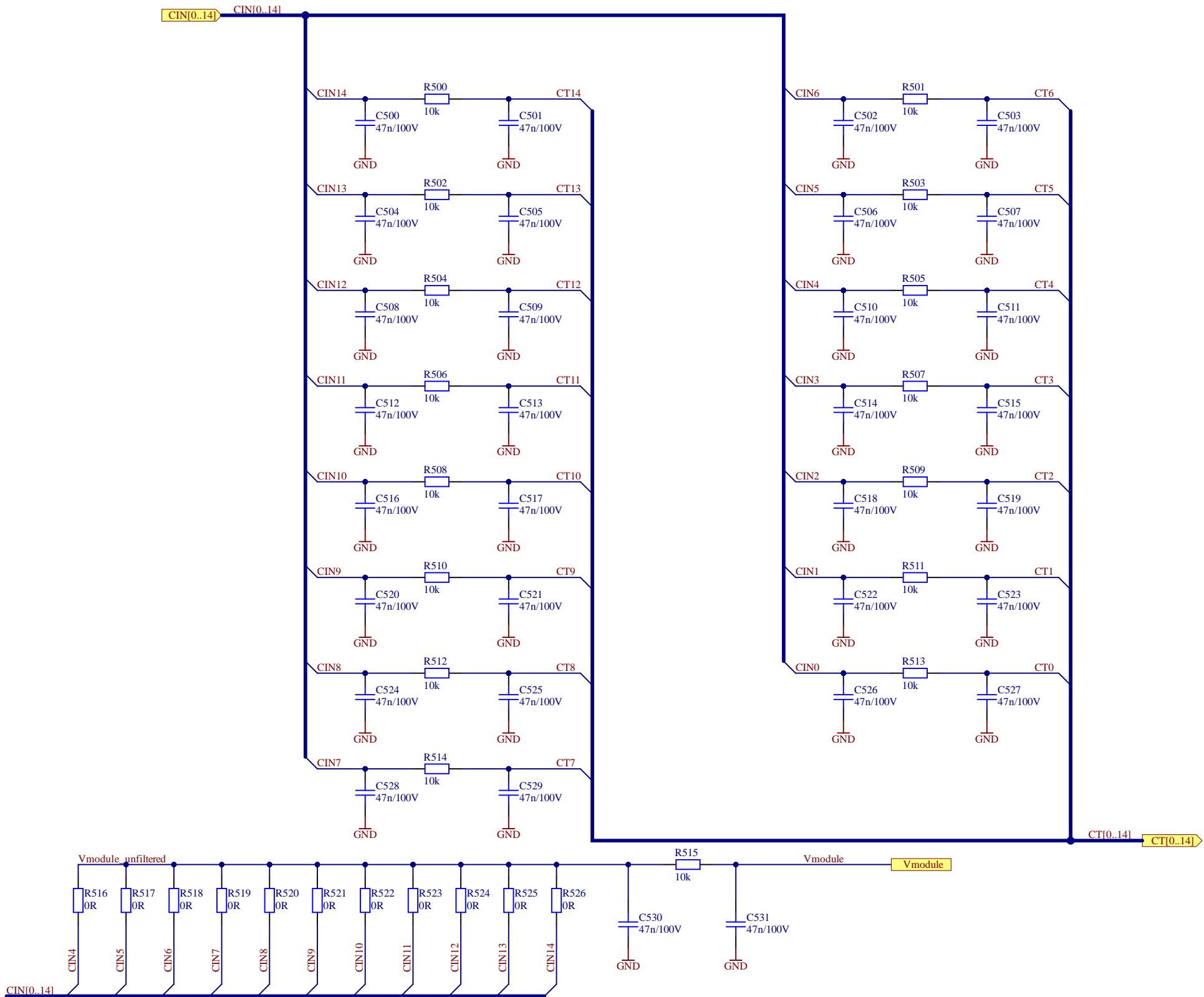


Rationale for creepage and clearance distances

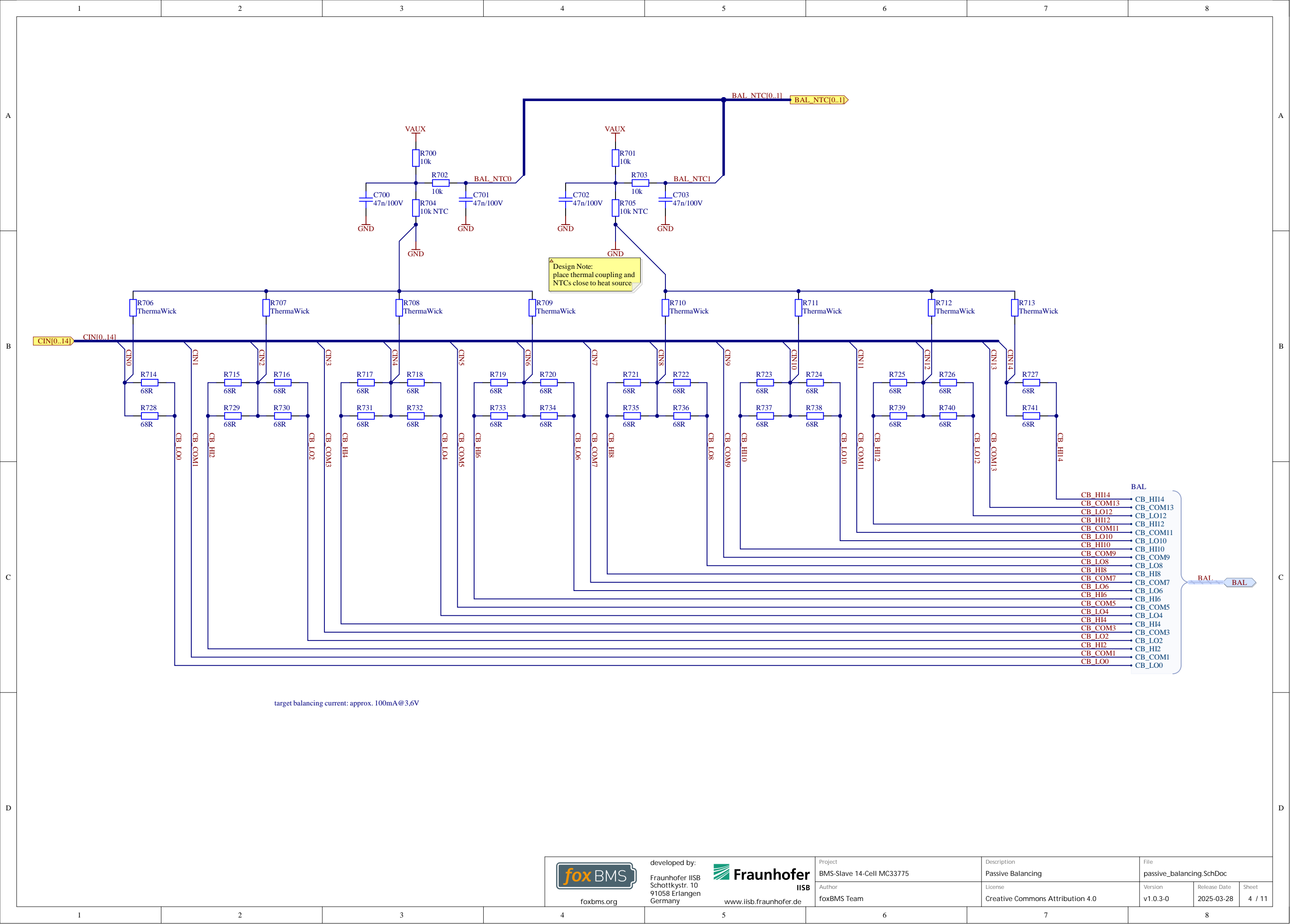
- * according to DIN EN 60664-1 (VDE 0110-1):2008-01
- * working voltage up to 1600Vdc
- * functional isolation for 1600Vdc
- * assume "Verschmutzungsgrad 2" and "Isolierstoffklasse 3b"
- * creepage distance: 16.0mm (table F.4)
- * design note: set creepage distance rule between net classes in PCB design
- * assumptions for clearance: 3600V (based on requirements for transient overvoltage), homogenous field: 1.1mm (table F.7)
- * design note: set clearances to net classes in PCB design

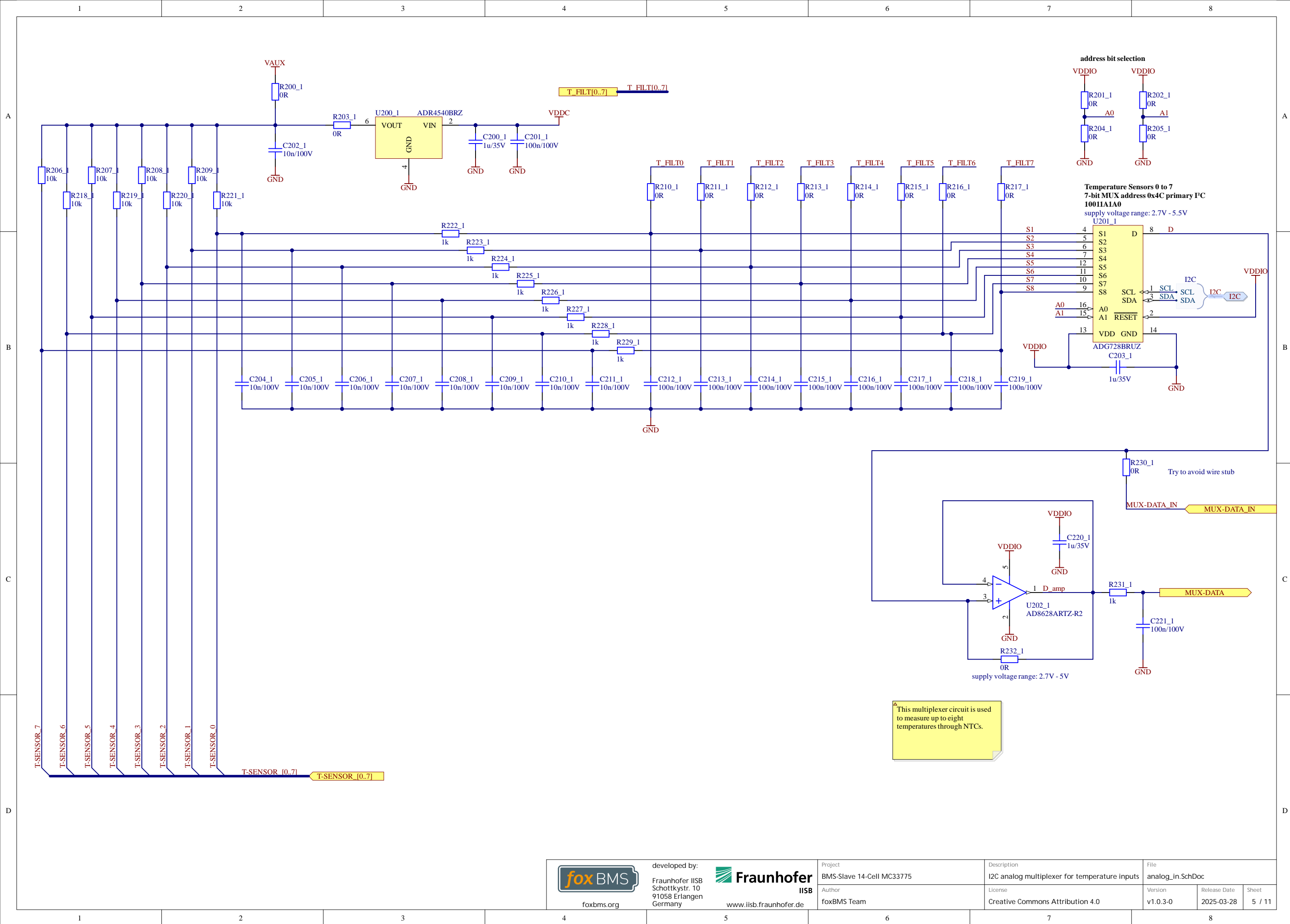
* take care with the mounting points: The spacing around them (6.05mm) is designed for a working voltage of 605Vdc at "Verschmutzungsgrad 2" and "Isolierstoffklasse 3b" or a working voltage of 1600Vdc at a "Verschmutzungsgrad 1" and "Isolierstoffklasse 3b". Consider potential connections to chassis when mounting the board and critically assess the situation.

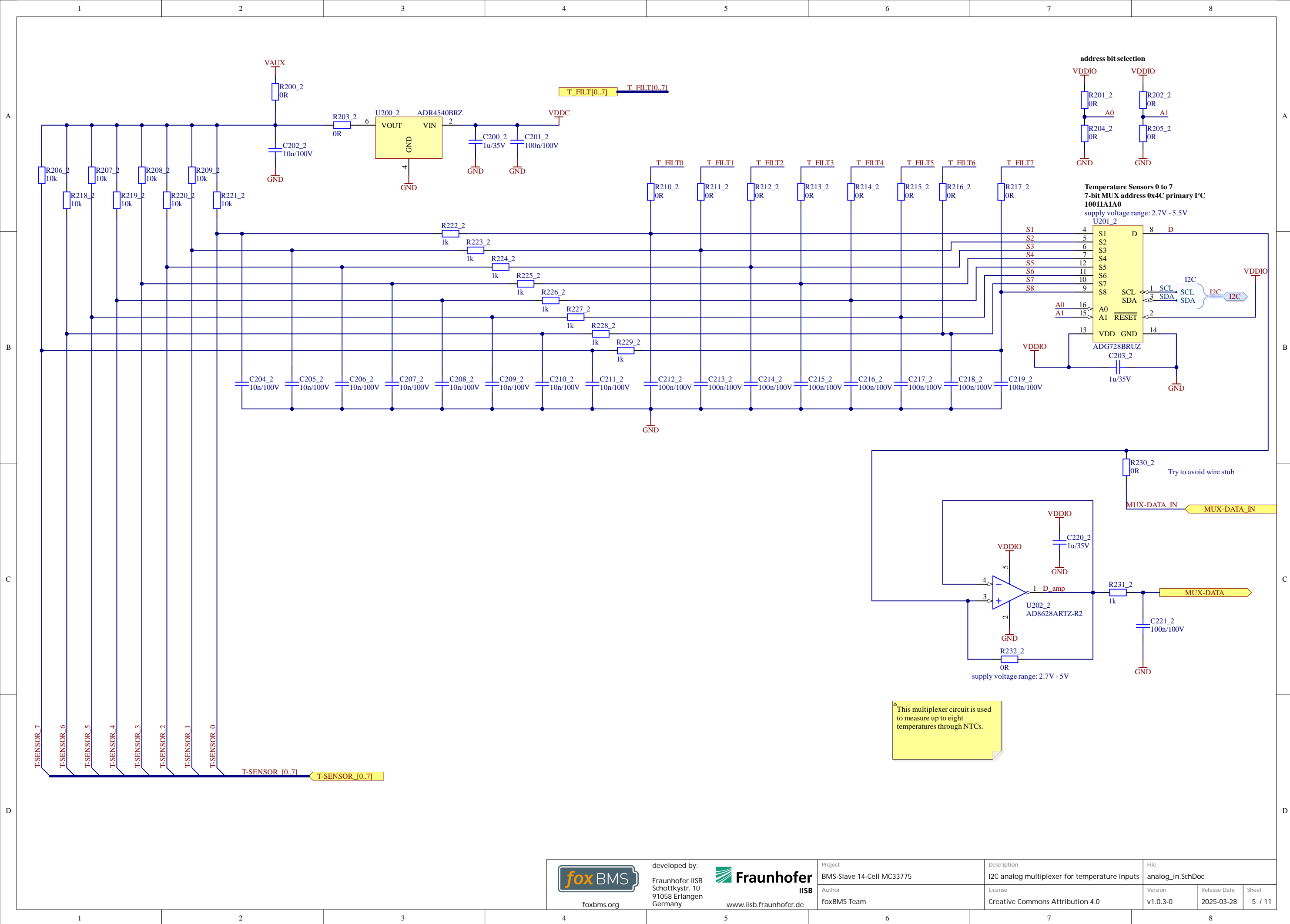




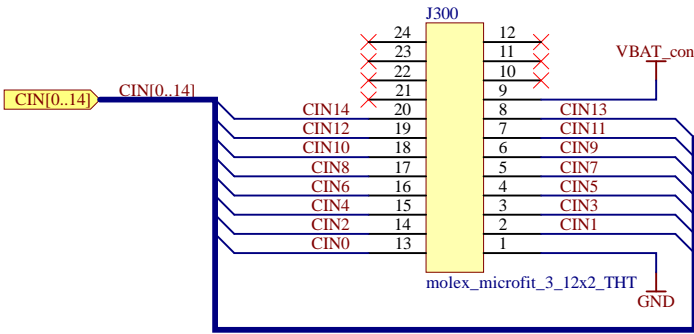
Use one of these resistors to route Vmodule in cases of cell counts lower than maximum.



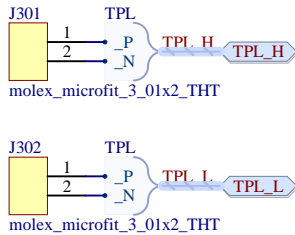




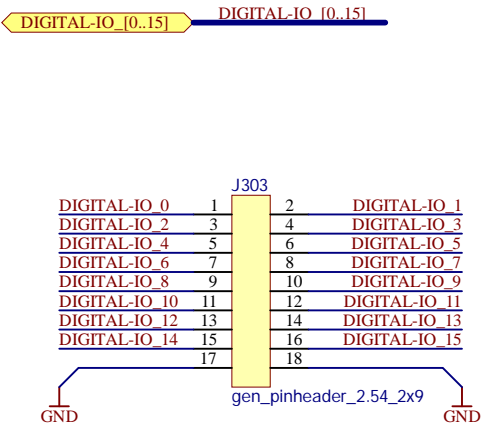
Battery cell connector



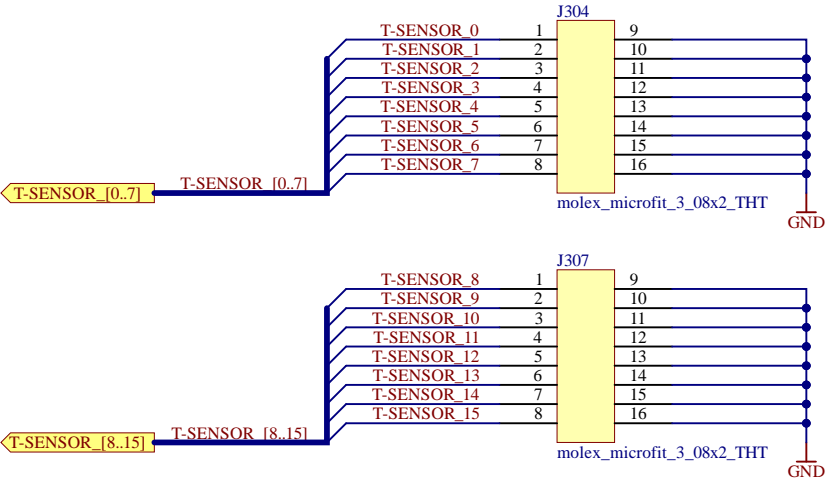
TPL communication connectors



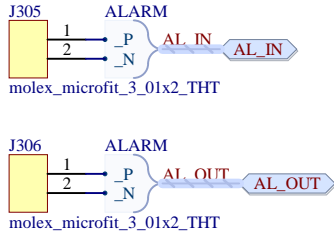
GPIO extension



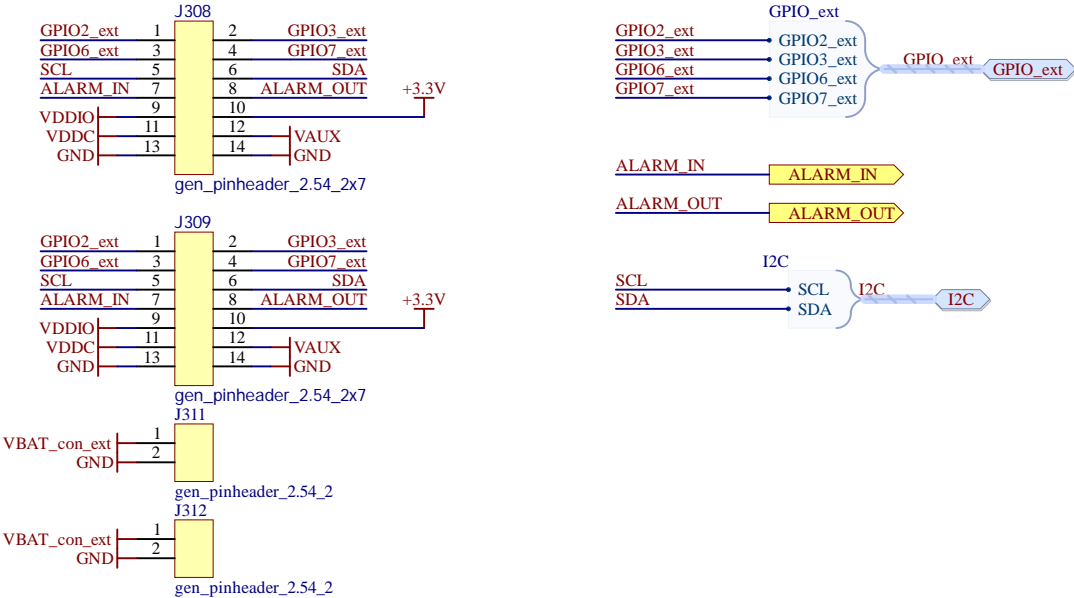
Temperature sensor connector



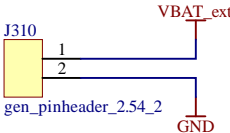
Alarm communication connectors



Extension connectors



External supply connector



foxbms.org

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91058 Erlangen
Germany



www.iisb.fraunhofer.de

Project

BMS-Slave 14-Cell MC33775

Author

foxBMS Team

Description

Connectors

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connectors.SchDoc

Version

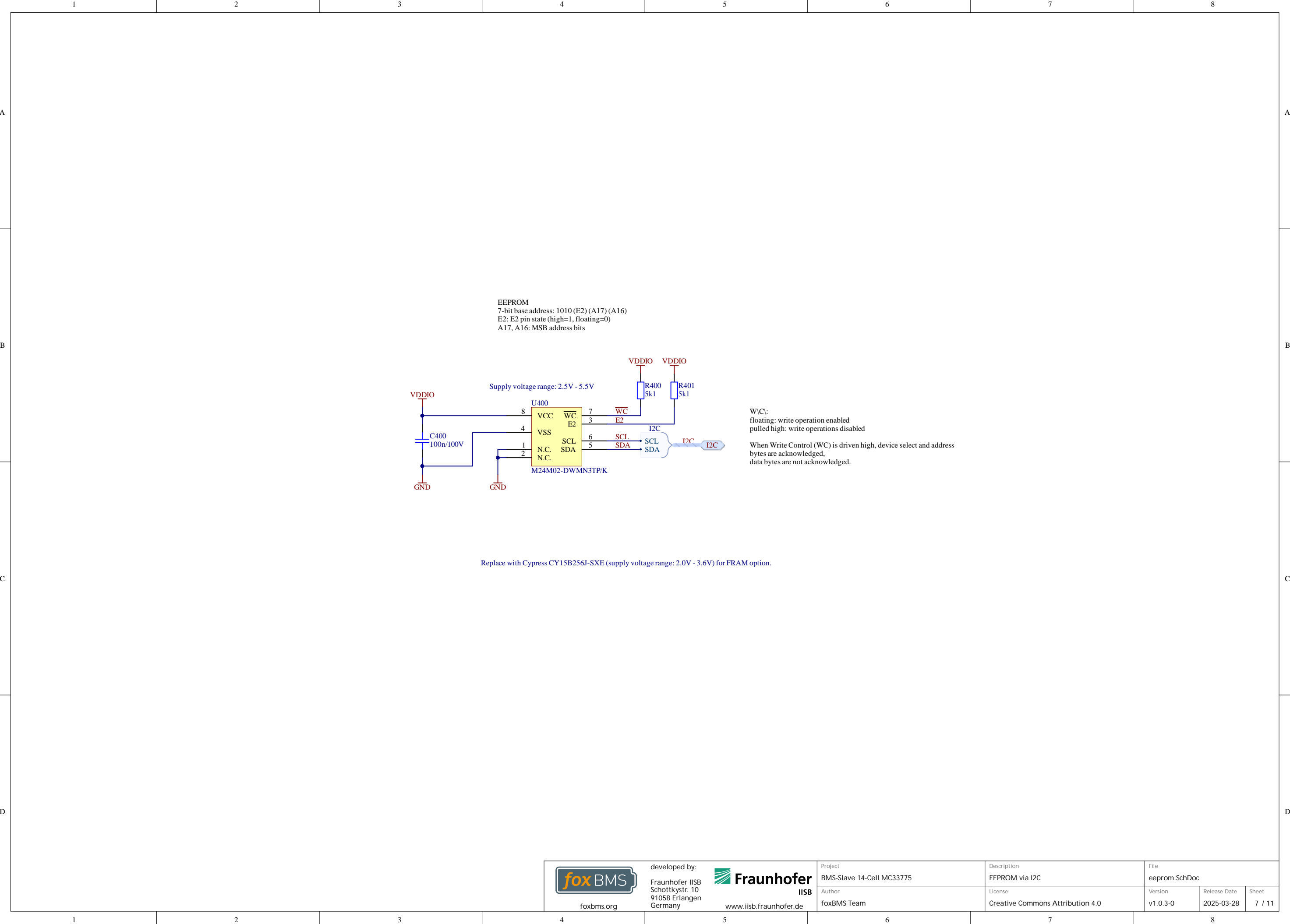
v1.0.3-0

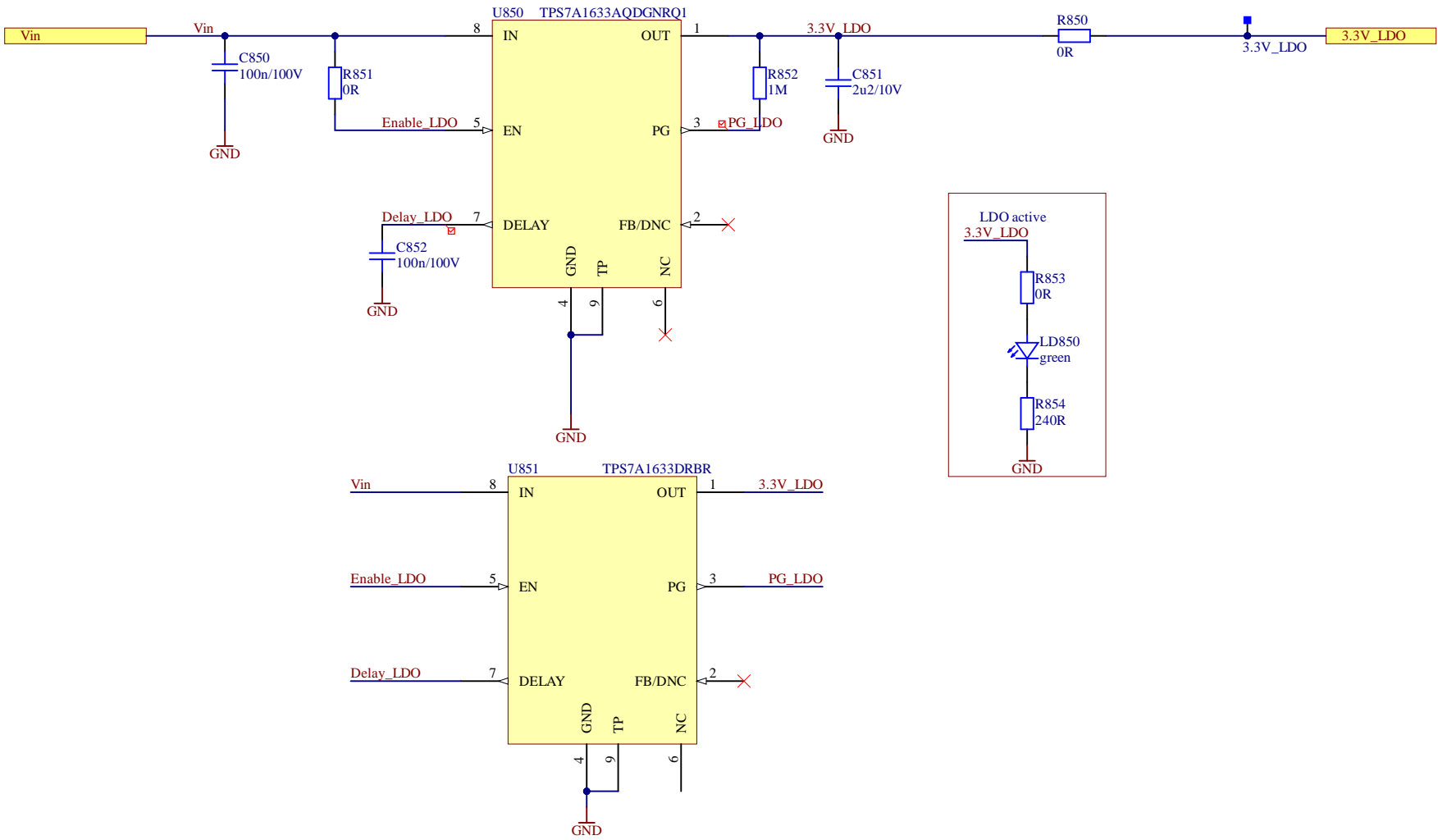
Release Date

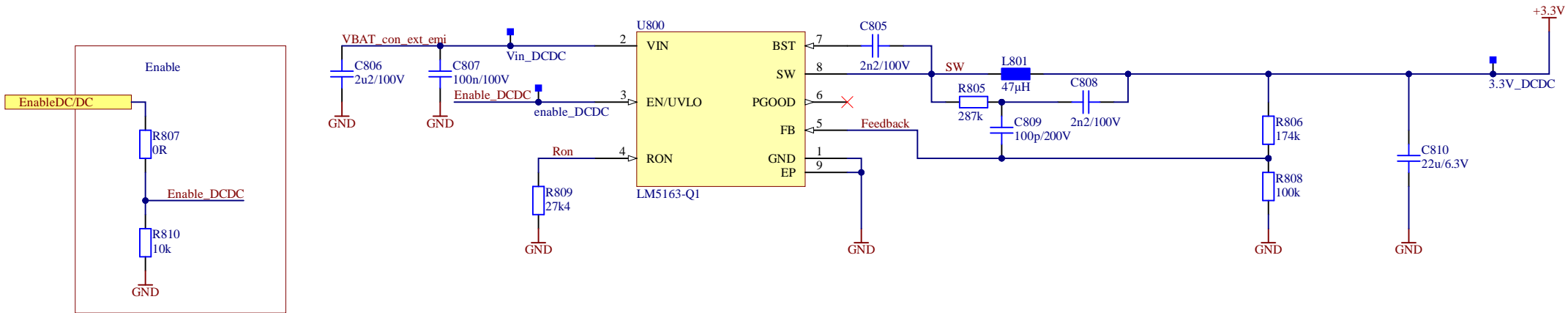
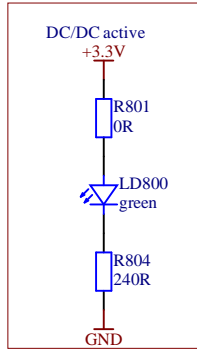
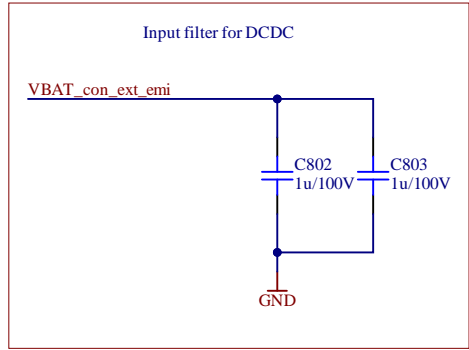
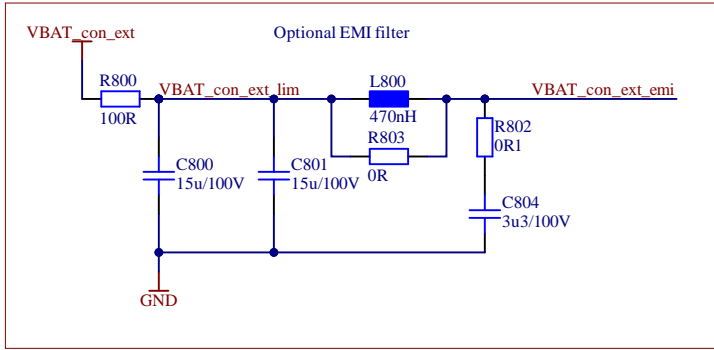
2025-03-28

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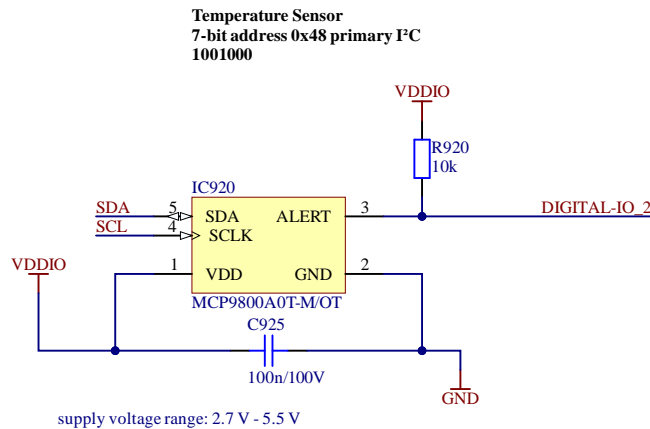
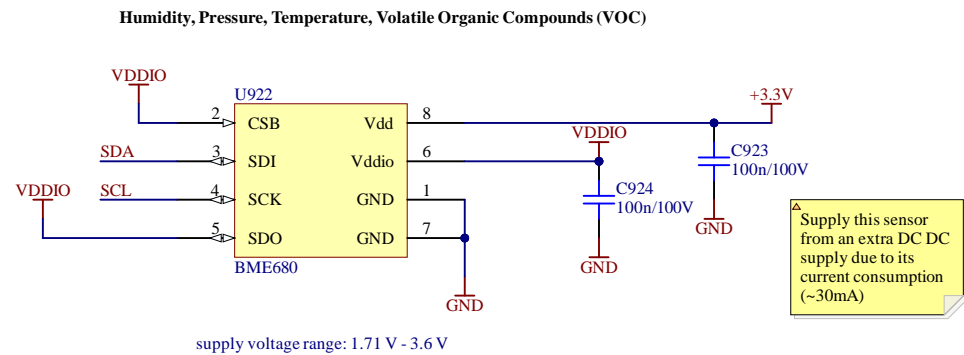
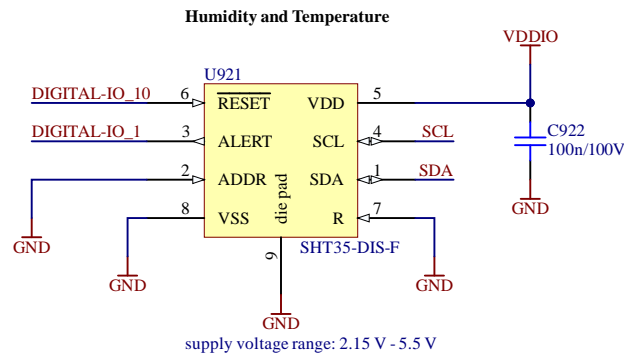
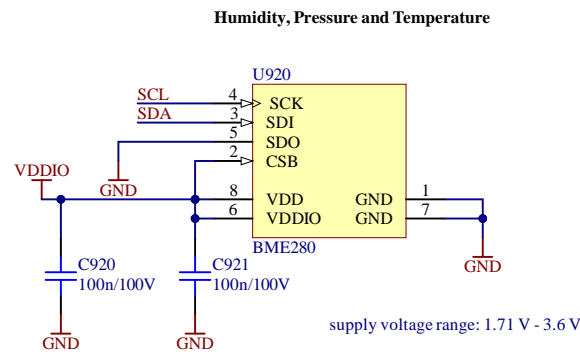
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The DC/DC converter is used for applications where larger currents than the LDO can supply are needed.

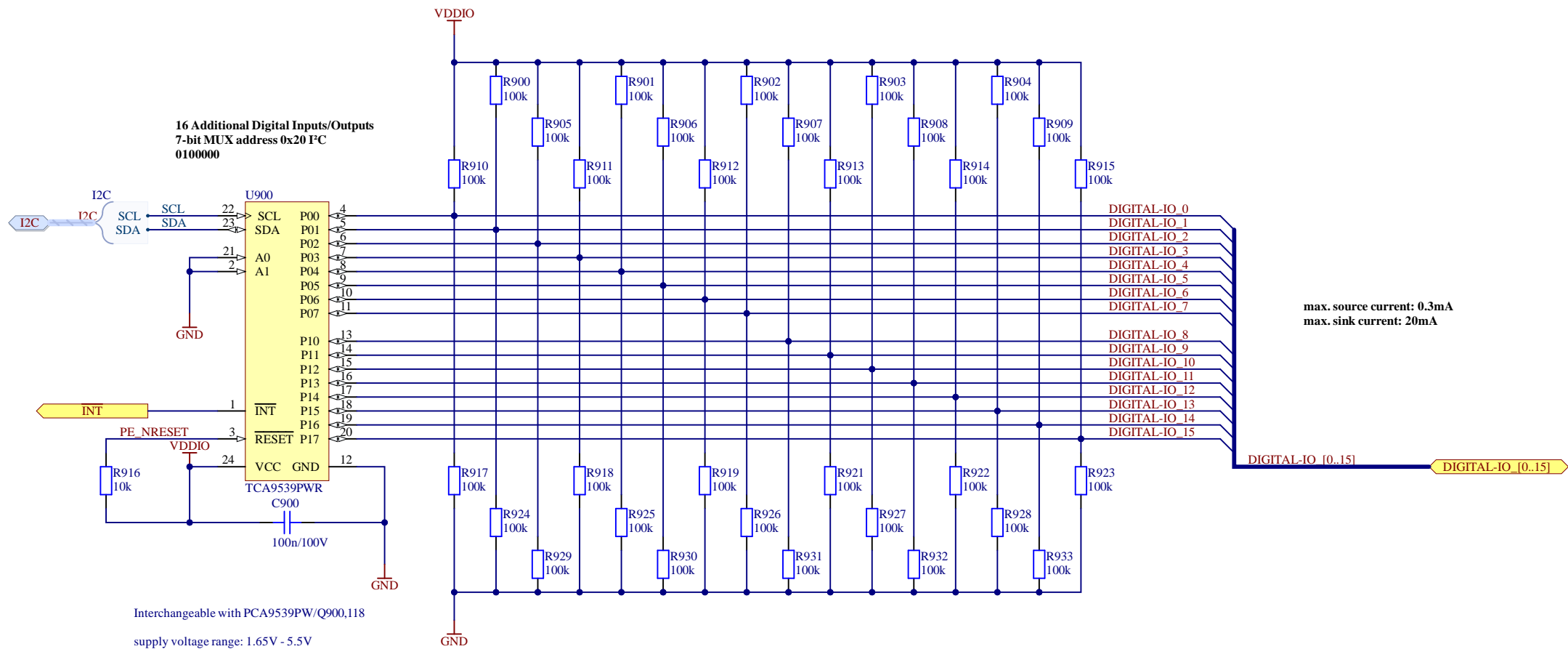


±0.5°C (typ.) at +25°C
±1°C (max.) from -10°C to +85°C
±2°C (max.) from -10°C to +125°C
±3°C (max.) from -55°C to +125°C

Attention: use -A0T Type (I2C address conflict otherwise)!

Alert temperature can be configured via I2C

PC addresses	
Analog MUX bank0:	1001100
Analog MUX bank0:	1001101
port expander:	0100000
M24M02-A125:	101xxxx
CY15B256J-SXE:	1010xxx
SHT35:	1000100
MCP9800A0T:	1001000
BME280:	1110110
BME680:	1110111



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Fraunhofer
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Project

BMS-Slave 14-Cell MC33775

Author

foxBMS Team

Description

Digital Inputs/Outputs

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