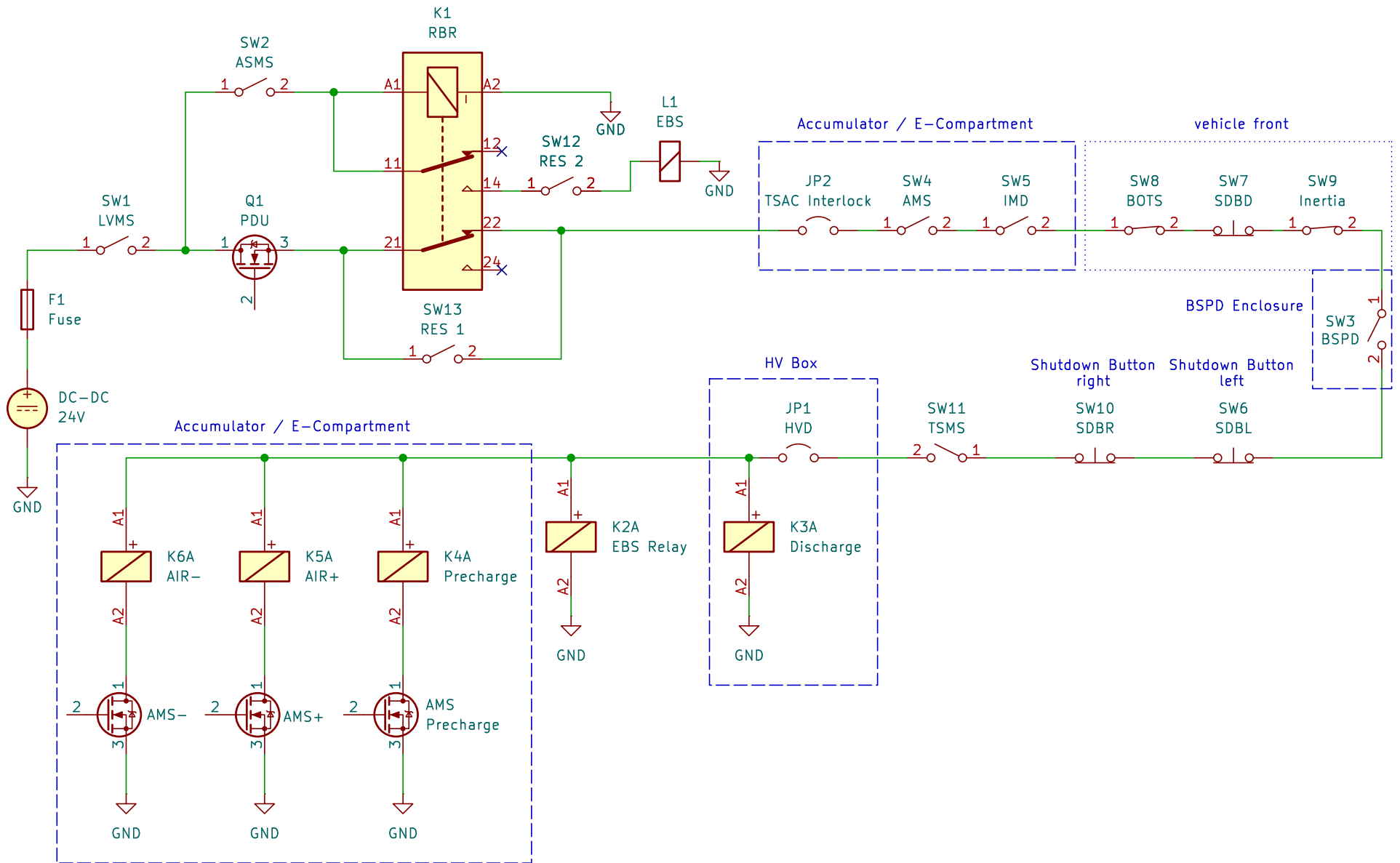




FASTTUBE

Project:SDC

Title: Shutdown Circuit Schematic

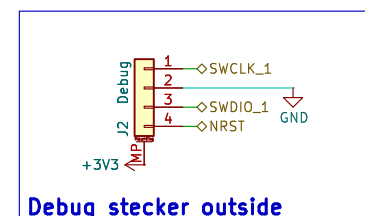
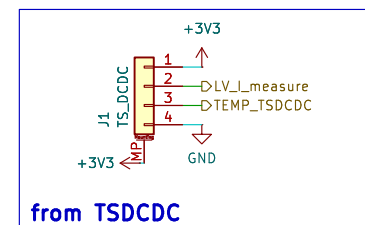
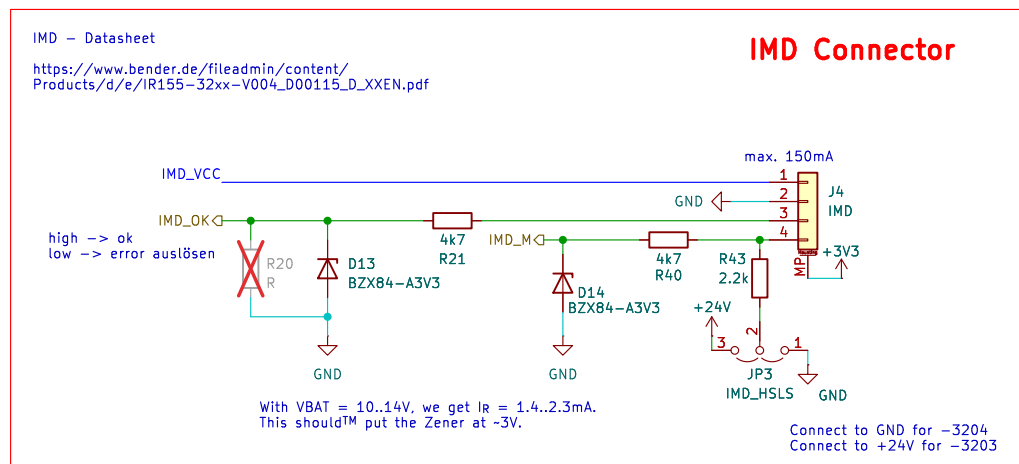
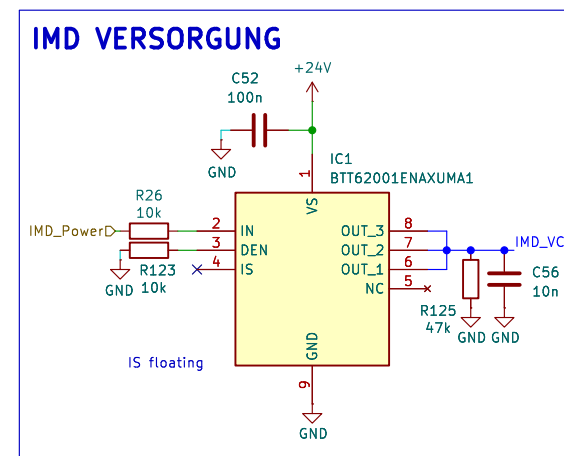
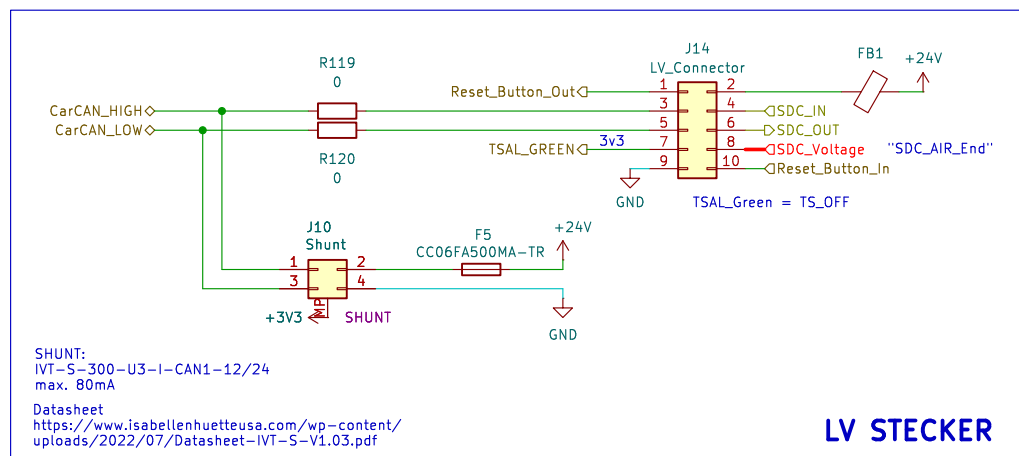
Author: Leonard Gies

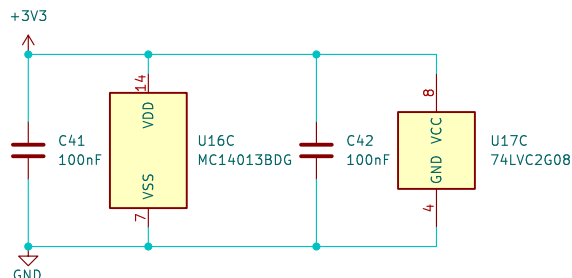
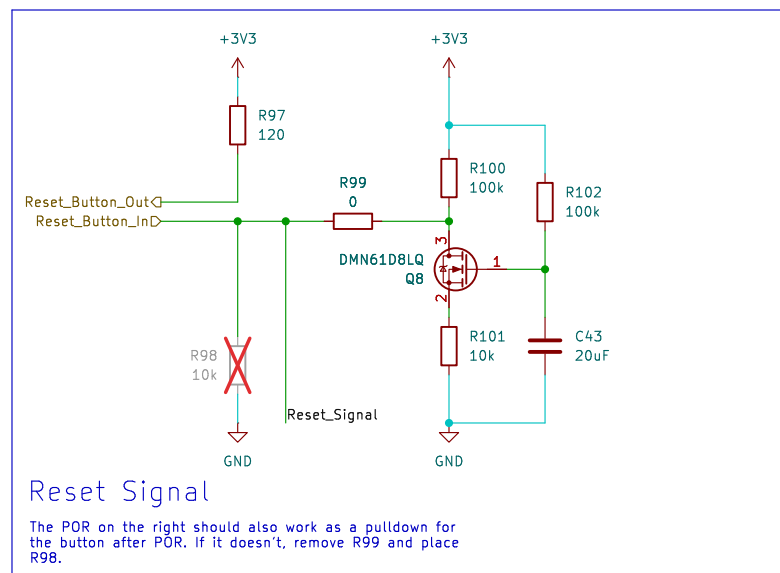
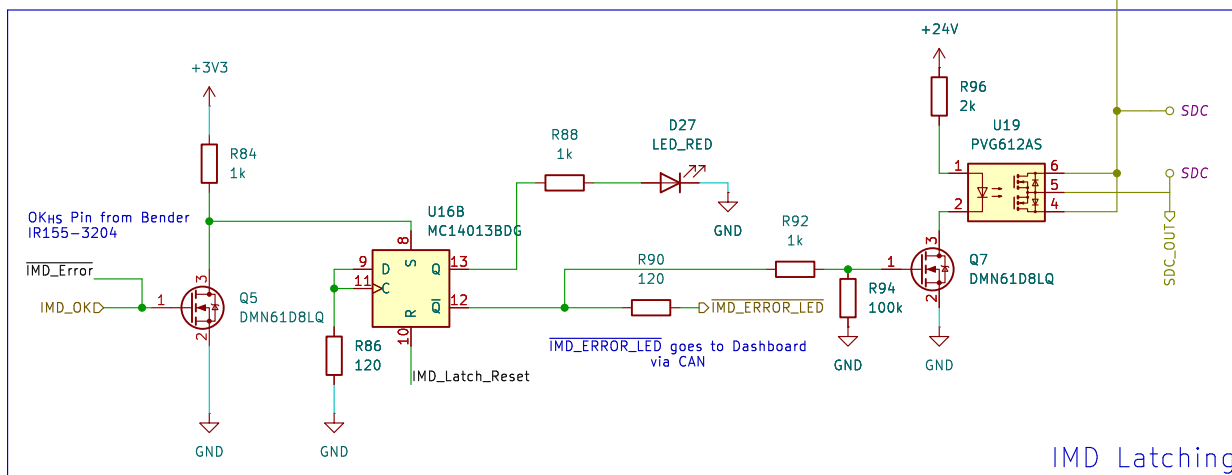
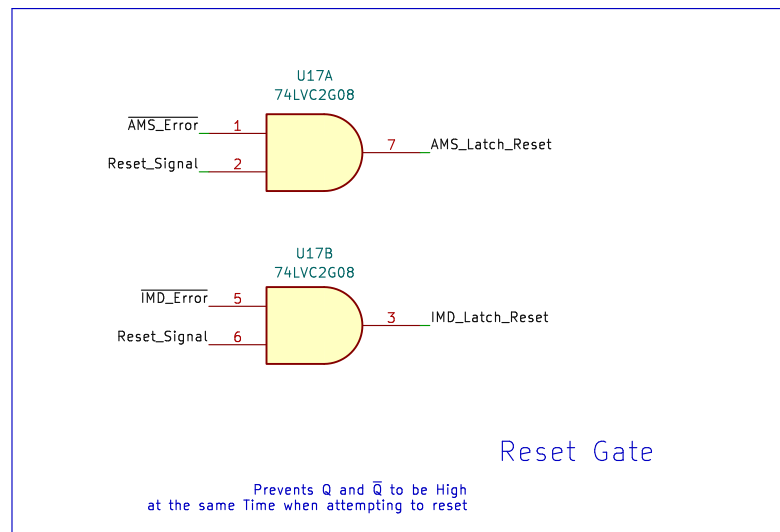
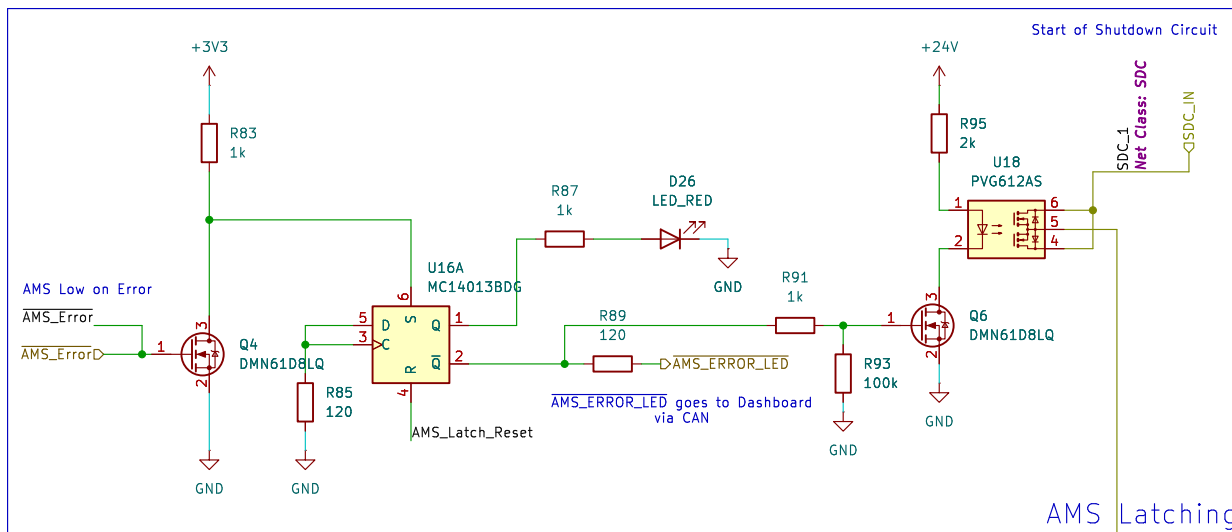
Rev: V1

Date: 2025-04-26

Exp. Date: 2025-04-26

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Current Consumption

To calculate the current consumption, the load on the shutdown circuit must first be identified. As seen in the SDC schematic, the load consists of the AIRs, precharge relay, EBS Relay and the Discharge Circuit. The current consumption of the components are as follows:

- AIRs: 249 mA
- Precharge relay: 8 mA
- EBS relay: 9.6 mA
- Discharge circuit: 4 mA

We can then find the total consumption when we add all the the load together. $249 \text{ mA} \cdot 2 + 8 \text{ mA} + 9.6 \text{ mA} + 4 \text{ mA} \approx 520 \text{ mA}$.

Overcurrent Protection

Reference

[1] Vishay *PTCEL13R251NxE*. https://www.vishay.com/docs/29165/ptcel_series.pdf, 09.2024

[2] ST *STB10LN80K5*. <https://www.st.com/resource/en/datasheet/stb10ln80k5.pdf>, 02.2016