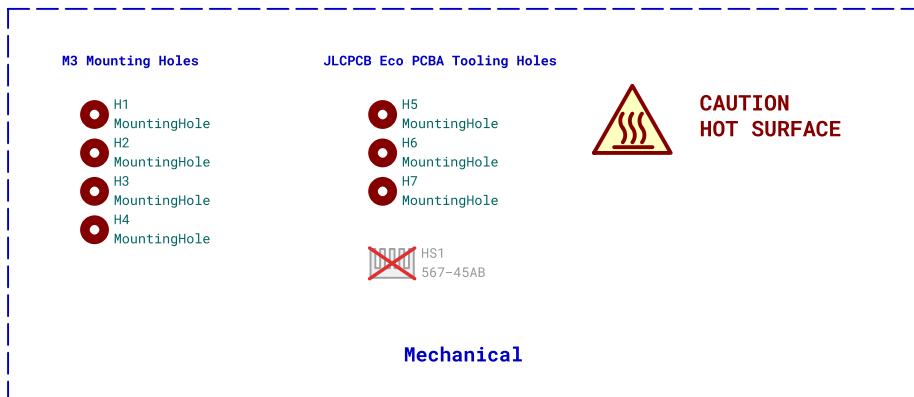
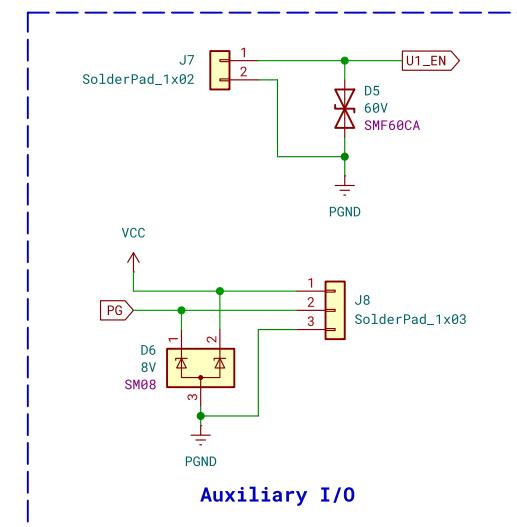
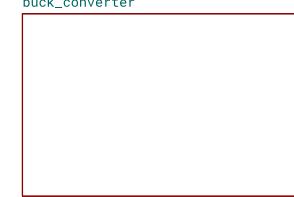


**Revision History**

Model	Revision	Date	Description
SSDP3A0	A	2025-07	Concept design using the LM70880 buck converter and LM5069-1 hotswap controller. Abandoned due to supply chain issues and cost constraints.
SSDP3A1	A	2025-08	Concept design using the LM5146 buck controller and TPS2490 hotswap controller. Abandoned due to space and cost constraints.
SSDV3	A	2025-09	Concept design using the LM5146 buck controller in a custom 1/8th brick form factor. Accepted design for revision.
SSDV3	B	2025-10	Concept design using the cheapest parts available on LCSC. Limited part availability and NRND parts made future production of this revision difficult.
SSDV3	C	2025-10	Prototype design featuring reverse polarity protection in exchange for a smaller TVS diode on the input. Smaller, active-production PQFN-8 FETs used in place of SO-8 FETs. Used for preliminary integration testing and validation.
SSDV3	D	2025-11	Production revision from Rev. C., addressing issues found in testing: - Fixed electrolytic input capacitor unprotected from reverse polarity. - Added missing thermal vias for CSD19537Q3 footprints. - Replaced RPP ground diodes with 100V rated diodes. - Revised capcaitor selection for higher temperature rating: X5R -> X7R. - Copper pour patching. - Refactored schematic for A4 paper.



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A 12S battery eliminator circuit (BEC) for UAS applications.

Author(s): Julian Joaquin  
UBCO Aerospace Club

Sheet: /  
File: SSDV3.kicad\_sch

**Title: Super Step Down V3**

Size: A4 Date: 2025-11-08

Rev: D Id: 1/3

A

A

B

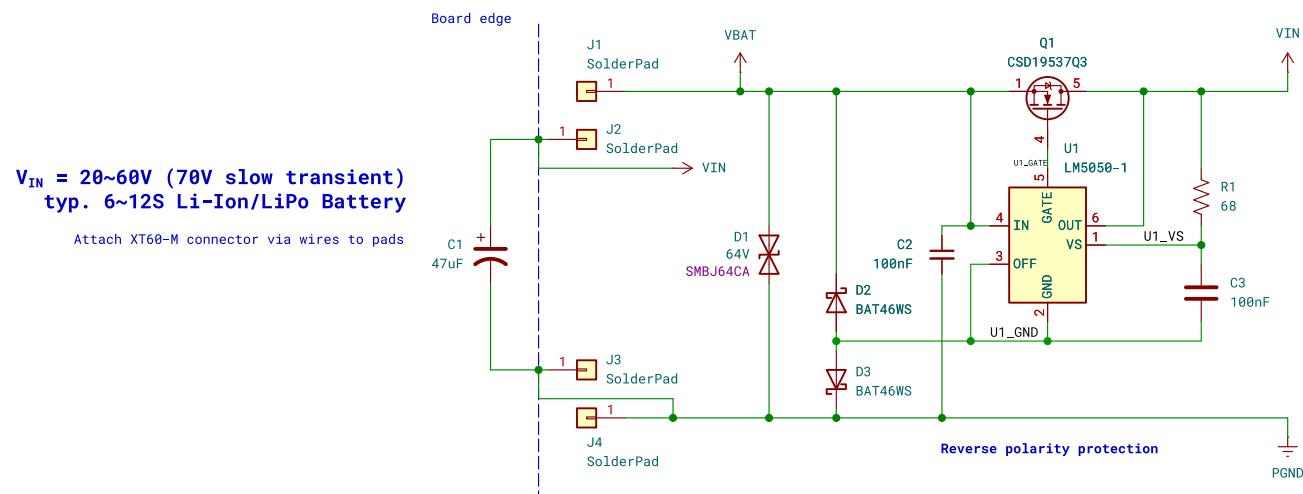
B

C

C

D

D



A 12S battery eliminator circuit (BEC) for UAS applications.

Author(s): Julian Joaquin  
UBCO Aerospace Club

Sheet: /rpp/  
File: rpp.kicad\_sch

**Title:** Super Step Down V3

Size: A4 Date: 2025-11-08

KiCad E.D.A. 9.0.4

Rev: D  
Id: 2/3

PWR\_FLAG → PGND  
PWR\_FLAG → VBAT  
PWR\_FLAG → U1\_GND

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