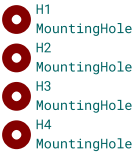


Revision History

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.
SSDP3A2/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: <ul style="list-style-type: none">- Fixed electrolytic input capacitor unprotected from reverse polarity.- Added missing thermal vias for CSD19537Q3 footprints.- Replaced RPP ground diodes with 100V rated diodes.- Revised capacitor selection for higher temperature rating: X5R -> X7R.- Copper pour patching.- Refactored schematic for A4 paper.

M3 Mounting Holes



JLCPCB Eco PCBA Tooling Holes



CAUTION
HOT SURFACE

Mechanical

rpp

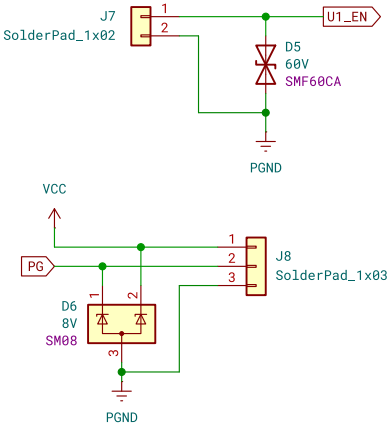


File: rpp.kicad_sch

buck_converter



File: buck_converter.kicad_sch



Auxiliary I/O

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

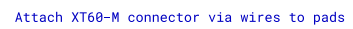
KiCad E.D.A. 9.0.4

Rev: D

Id: 1/3

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Rev: D

