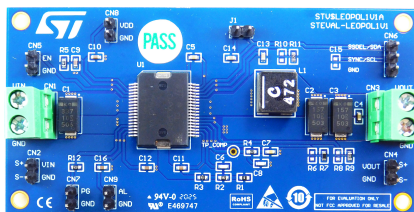


Rad-Hard 5 A monolithic synchronous switching regulator



Features

- Input operating voltage: 5.0 V
- Output voltage: 1.2 V
- Output current: up to 5 A
- Enable input voltage: 2.5 V
- Switching frequency: 500 kHz
- Output overcurrent protection: 10 A
- Easy synchronization with 180° out-of-phase management (up to 2 ICs)
- Target radiation performance:
 - 50 krad (Si) total ionizing dose
 - TNID immune at 3.1011 PROTON / cm²
 - SEL free up to 62 MeV. cm² / mg

Description

The **STEVAL-LEOPOL1V1** is created and optimized for a typical application of the **LEOPOL1**.

The **LEOPOL1** is a single phase, step-down monolithic switching regulator with high precision internal voltage reference and integrated power MOSFETs for synchronous conversion.

The **LEOPOL1** regulator converts 3 ~ 12 V input voltage to 0.8 V ~ (0.85 x VIN) output voltage.

The controller is based on a peak current mode architecture, which ensures a fast load transient response and very stable switching frequency. An embedded integrator compensates the DC voltage error due to the output voltage ripple.

The **STEVAL-LEOPOL1V1** is optimized to meet the radiation hardness required for low Earth orbit space.

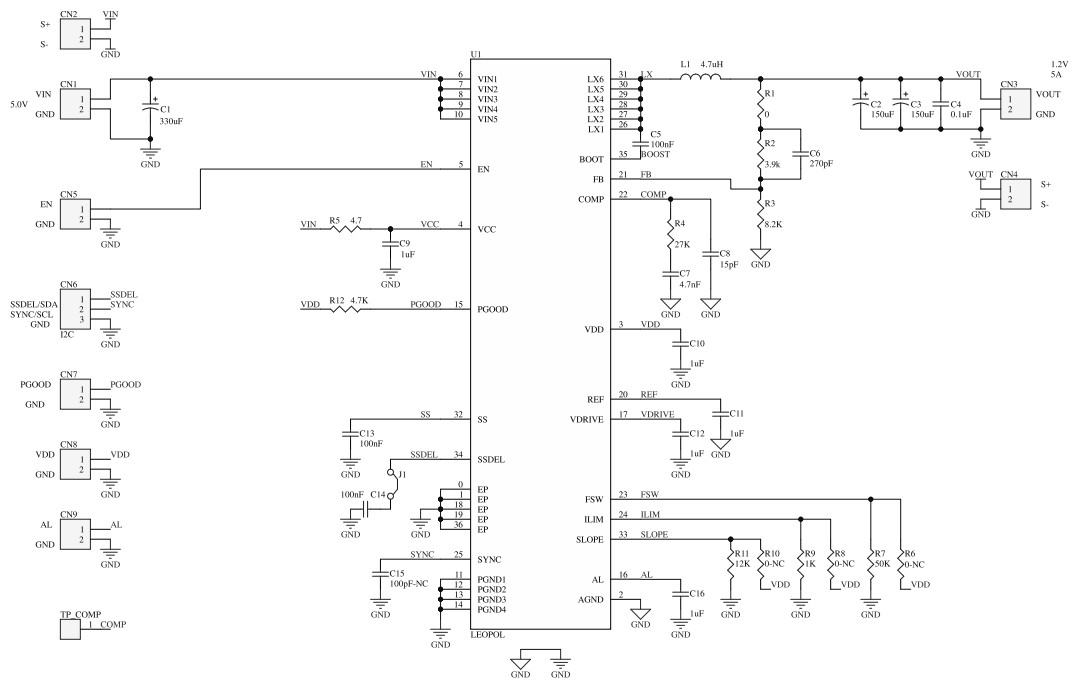
It can operate in a wide operating temperature condition from -40 to 125°C

Product summary

Rad-Hard 5 A monolithic synchronous switching regulator	STEVAL-LEOPOL1V1
Rad-hard 5 A step-down converter in plastic package	LEOPOL1
Applications	Space applications, Rad-Hard solutions Power systems

1 Schematic diagrams

Figure 1. STEVAL-LEOPOL1V1 circuit schematic



2 Board versions

Table 1. STEVAL-LEOPOL1V1 versions

Finished good	Schematic diagrams	Bill of materials
STV\$LEOPOL1V1A ⁽¹⁾	STV\$LEOPOL1V1A schematic diagrams	STV\$LEOPOL1V1A bill of materials

1. This code identifies the STEVAL-LEOPOL1V1 evaluation board first version.

Revision history

Table 2. Document revision history

Date	Revision	Changes
18-Jun-2025	1	Initial release.
11-Nov-2025	2	Updated Title, Features, Product summary and Description.

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