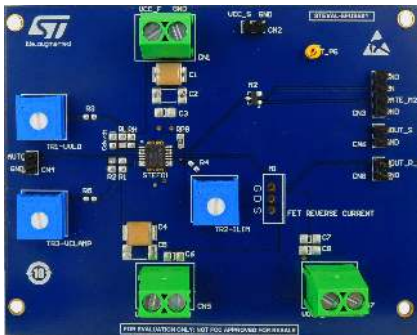


Evaluation board based on the STEF01 fully programmable universal electronic fuse



Features

- Input voltage from 8 to 48 V
- Peak output current up to 6 A
- Enable/Disable/Fault flag pin
- Adjustable undervoltage lockout
- Adjustable output voltage clamp
- Programmable V_{OUT} slew rate control
- Latch or auto-retry jumper-programmable thermal protection
- Power good monitoring flag
- Drives an optional external reverse current protection MOSFET
- CE certified
- RoHS and China RoHS compliant
- WEEE compliant (2012/19/UE RAEE II)

Applications

- Hot-swap boards
- Electronic circuit breakers
- Distributed power systems
- Industrial automation
- White goods/appliances
- Telecom power modules

Product summary	
Evaluation board based on STEF01 fully programmable universal electronic fuse	STEVAL-EFUSE01
8 V to 48 V fully programmable universal electronic fuse	STEF01

Description

The electronic fuses (E-fuses) are integrated circuit protections that can replace conventional fuses or other discrete protection devices.

The [STEVAL-EFUSE01](#) allows full evaluation of the [STEF01](#) E-fuse and is designed to help you test and develop a power path protection to the system.

The [STEF01](#) E-fuse integrates a control circuit and a low on-resistance MOSFET switch and provides a full set of protections, including overcurrent, overvoltage and inrush current. You can adjust UVLO threshold, clamping voltage and overload current limits through mechanical trimmers.

An external MOSFET, driven by the [STEF01](#) gate driver pin, can be mounted to implement a reverse-current blocking circuit. The inrush current can be controlled by the output voltage ramp rate, with the dedicated soft start circuit embedded in the [STEF01](#) device. The [STEVAL-EFUSE01](#) evaluation board lets you easily adjust the output voltage ramp rate at the desired startup time, by changing the $C_{dv/dt}$ capacitor.

As most applications require a flag to signal that the output voltage is in the correct range, the [STEVAL-EFUSE01](#) features a PG test point for information about the voltage drop on the pass element.

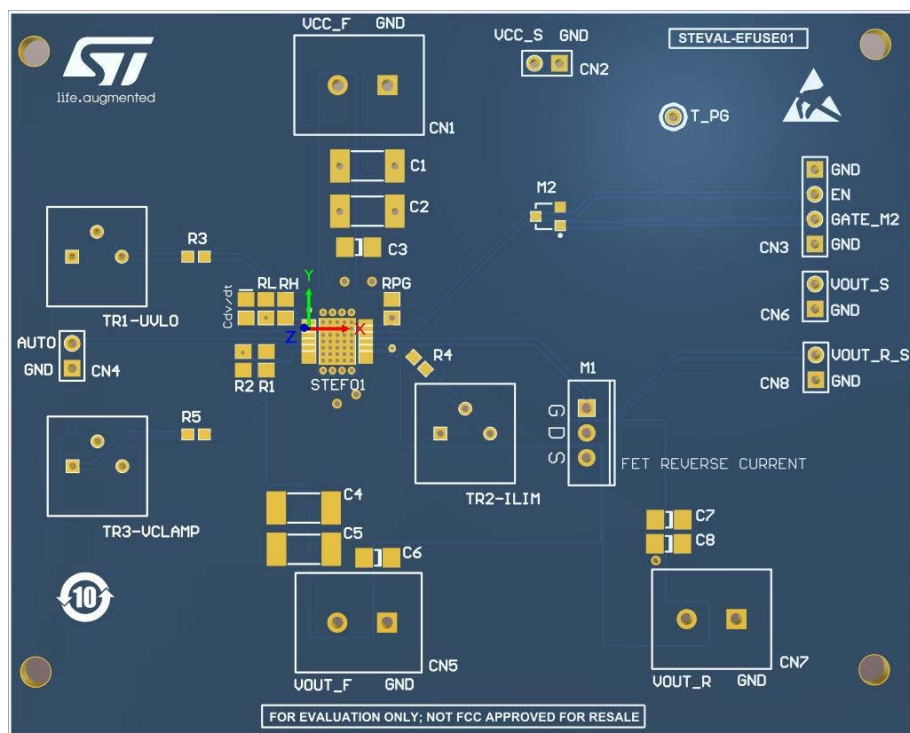
The [STEVAL-EFUSE01](#) also features thermal latch and auto-retry thermal protection modes, selectable through a dedicated jumper configuration.

1 STEVAL-EFUSE01 components

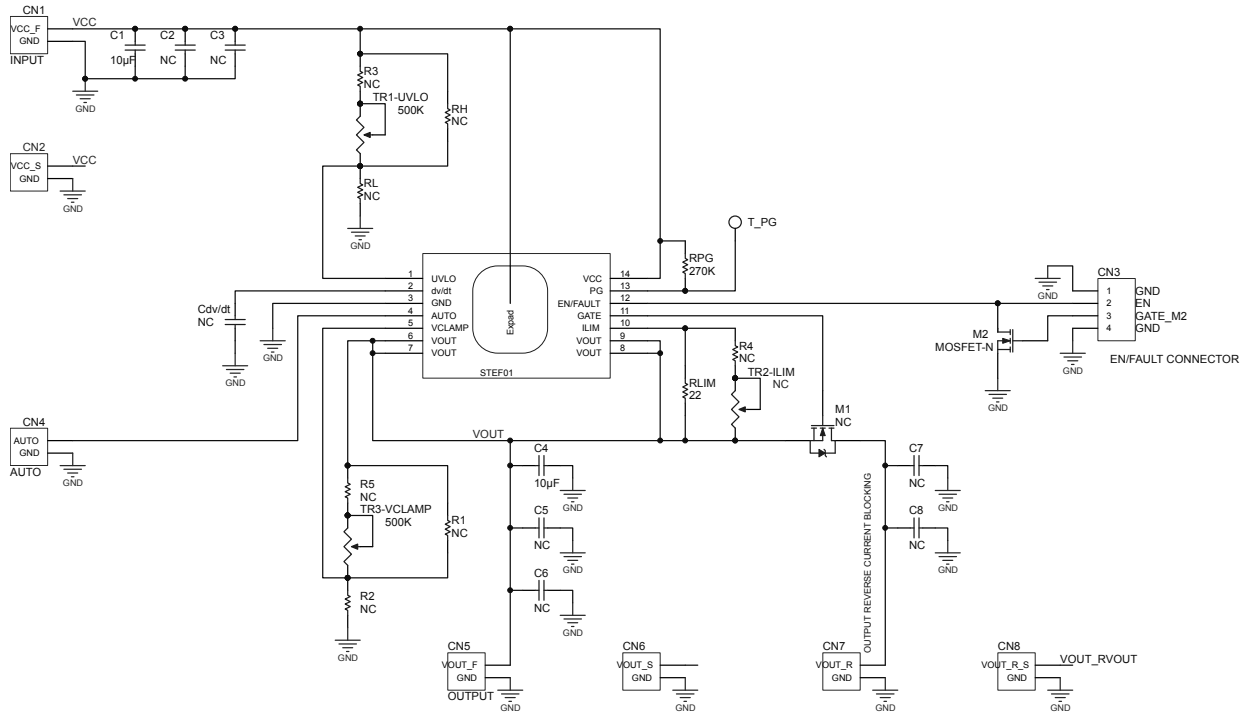
The STEVAL-EFUSE01 evaluation board can be set up through the mechanical trimmers and others passive components to match the application protection requirements:

- TR1 mechanical trimmer for the undervoltage lockout threshold setup (R3 and RL resistors must be mounted)
- TR2 mechanical trimmer for the overload current limit trip point setup (R4 must be mounted and R_{LIM} must be removed)
- TR3 mechanical trimmer for clamping voltage threshold setup (R5 and R2 resistors must be mounted)
- C_{dv/dt} capacitor for soft start ramp setup
- M1 MOSFET to implement reverse current feature
- M2 MOSFET to enable/disable the device
- T_PG POWER GOOD test point
- CN4 thermal latch or auto-retry thermal protection modes jumper configuration

Figure 1. STEVAL-EFUSE top side components



2 Schematic diagram

Figure 2. STEVAL-EFUSE01 circuit schematic


Revision history

Table 1. Document revision history

Date	Version	Changes
10-May-2019	1	Initial release.

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