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STEVAL-ISA178V1

5 V / 200 mA high voltage buck-converter based on VIPer01

Data brief



Features

- Five-star energy efficiency for operation under no load ($P_{IN_no_load}$ < 20 mW @ 230 V_{AC})
- Meets ErP Lot 6 Tier 2 requirements for household and office equipment
- Compliant with the 10% load efficiency and 4-point average active-mode efficiency targets prescribed by the European CoC ver. 5 Tier 2
- Meets IEC55022 Class B conducted EMI even with reduced EMI filter, thanks to the frequency jittering feature
- VIPer01 800V avalanche rugged technology and embedded protections ensure enhanced system reliability
- RoHS compliant

Applications

- Topology: buck
- Input power consumption:
  - Less than 20 mW @ 230 V_{AC} under no-load condition
  - Less than 400 mW @ 230 V_{AC} with 250 mW load
- Input voltage: 85 - 265 V_{AC}
- Output voltage: 5 V
- Output current: 200 mA
- Switching frequency: 30 kHz with jittering (±7%)
- Max amb. temp: 60 °C
- Automatic restart protections: OLP, short circuit, VCC clamp, max duty cycle counter, thermal shutdown
- Pulse-skip protection to prevent the flux-runaway
- Dimensions: 29 mm x 30 mm

Description

STEVAL-ISA178V1 is a compact and efficient solution for AC-DC power supplies, and performs voltage conversion from the main line down to 5 V output voltage.

The low current consumption of the VIPer01 and its low VCC voltage allows extremely low input power consumption under no load and light load conditions.

The pulse skip feature embedded in our IC reduces the peak current typically present during the startup phase of a buck converter.

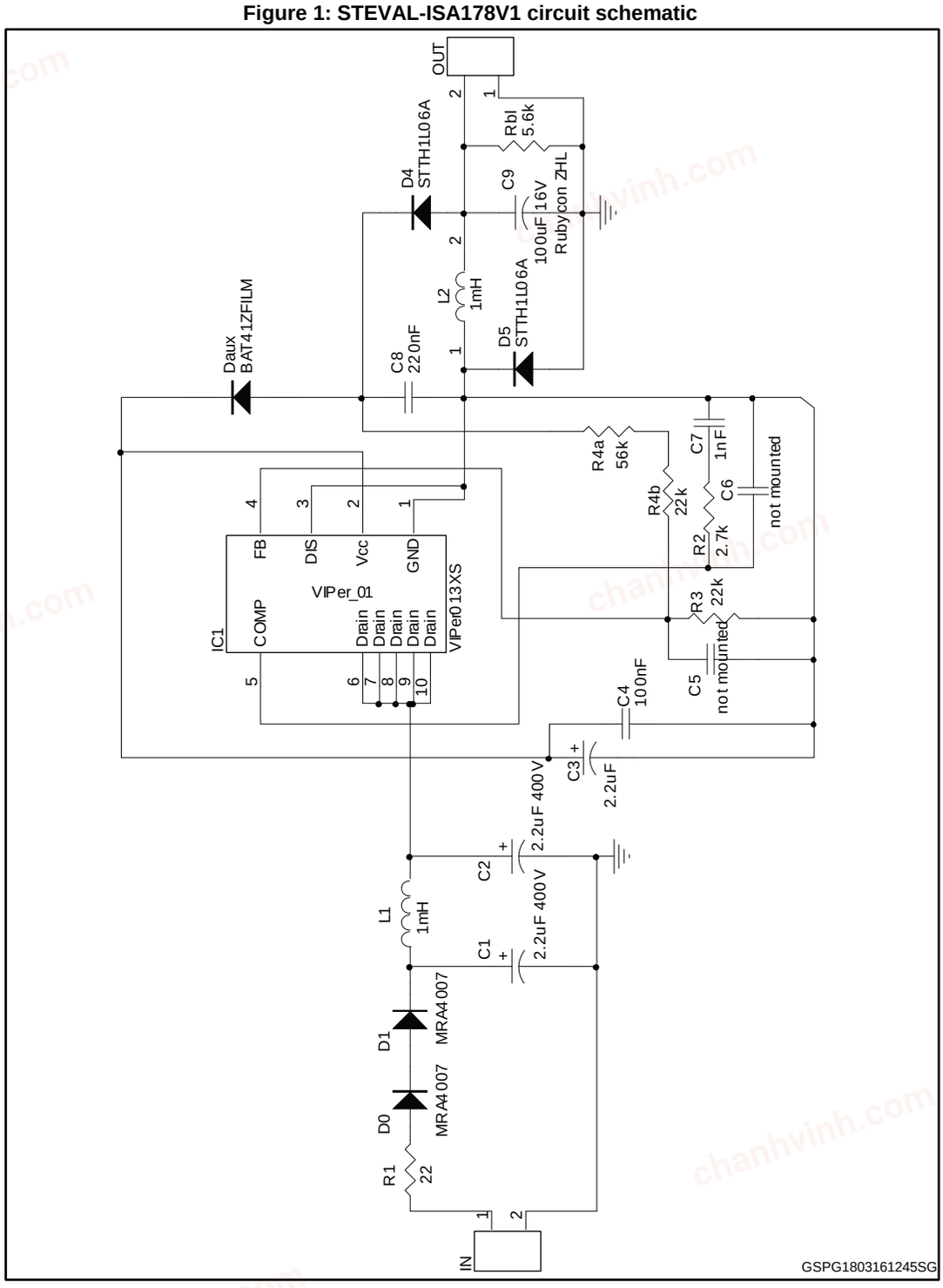
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1 Schematic diagram

Figure 1: STEVAL-ISA178V1 circuit schematic



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2 Revision history

Table 1: Document revision history

Date	Version	Changes
24-Mar-2016	1	Initial release.
16-Sep-2016	2	Updated: cover page Title, Features and Description. Added Applications on the cover page.

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