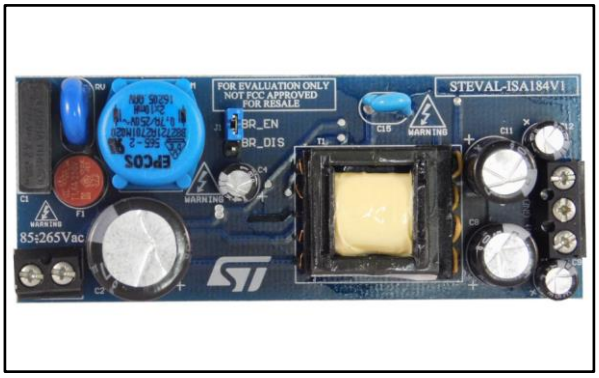
STEVAL-ISA184V1

5 V-12 V, 15 W double output isolated flyback converter based on VIPer37LD

Data brief



Features

- Universal input mains range: 85 – 265 V_{AC}; frequency: 50 – 60 Hz
- Output voltage 1: 5 V / 1.2 A
- Output voltage 2: 12 V / 0.75 A
- Very compact size
- Standby mains consumption: < 40 mW at 230 V_{AC}
- Average efficiency: > 75%
- EMI: according to EN55022-Class-B
- RoHS compliant

Description

The STEVAL-ISA184V1 evaluation board implements an isolated flyback double output (5 V / 1.2 A and 12 V / 0.75 A) 15 W wide range mains developed for general purpose applications.

The core of the application is the VIPer37LD off-line high voltage converter from the VIPerPlus family.

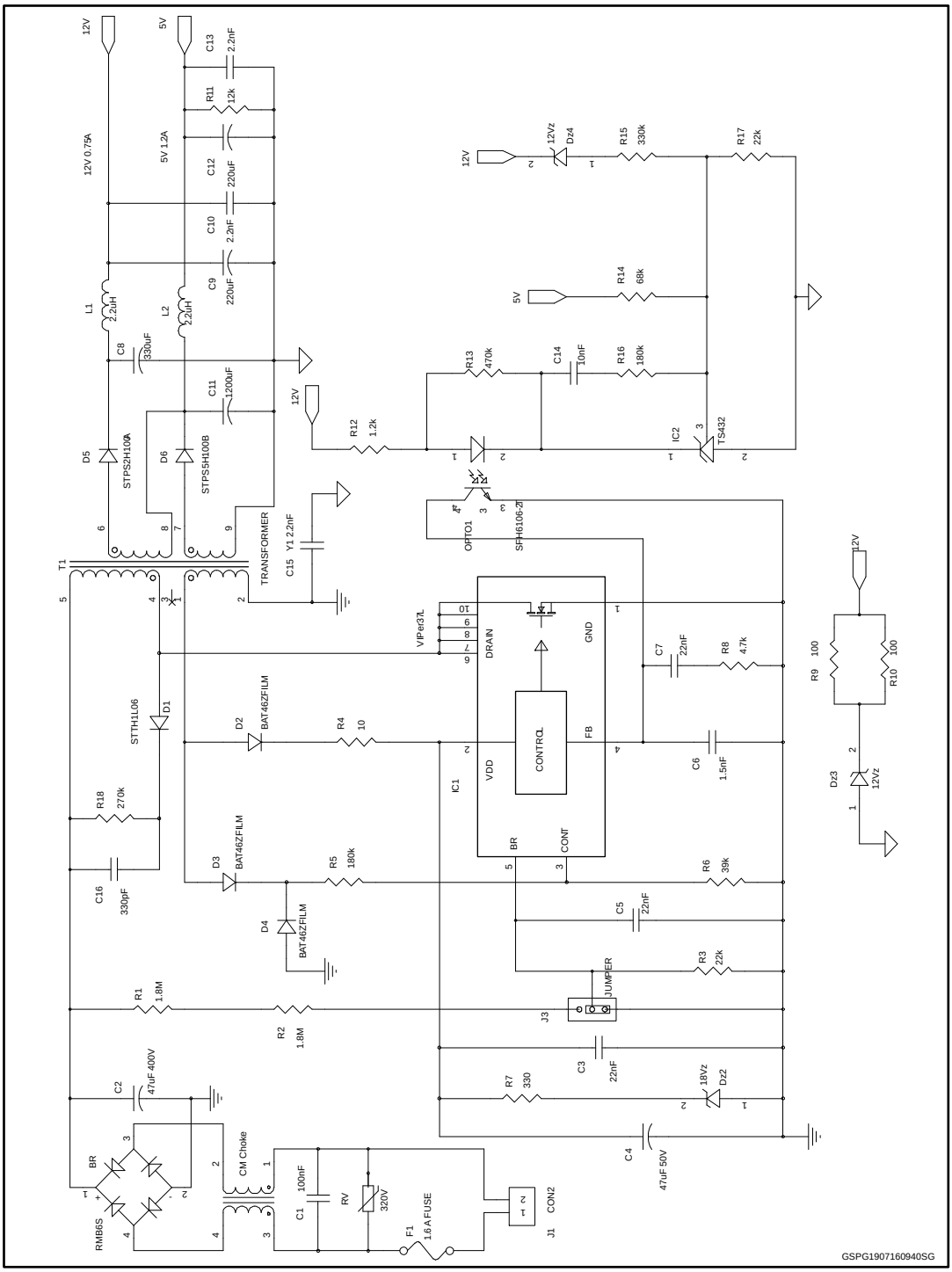
The device is a high-voltage converter that intelligently integrates an 800 V rugged power MOSFET with PWM current-mode control.

The main characteristics of the evaluation board are its small size and minimal BOM, high efficiency and low standby consumption. Extremely low consumption under no-load conditions is ensured thanks to burst mode operation, which reduces the average switching frequency and minimizes all frequency-related losses.

The VIPer37LD operates at 60 kHz fixed frequency, and frequency jittering is implemented to help meet the standards regarding electromagnetic disturbance. The several protections on the device like overvoltage, overload, output short circuit, secondary winding short, hard transformer saturation protection and brown out protections improve the safety and reliability of the design.

1 Schematic diagram

Figure 1: STEVAL-ISA184V1 circuit schematic



2 Revision history

Table 1: Document revision history

Date	Version	Changes
13-Dec-2016	1	Initial release.