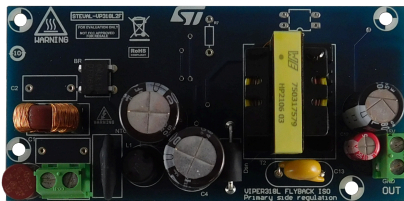


15 V/1.2 A isolated PSR Flyback converter based on VIPER31



Features

- Universal input mains range: 90 – 265 V_{AC}
- Frequency: 50-60 Hz
- Output voltage: 15 V
- Output current: 1.2 A
- Average efficiency: > 83%
- Tight line and load regulation over the entire input and output ranges
- Meets IEC55022 Class B conducted EMI even with reduced EMI filter, thanks to the frequency jittering feature
- RoHS compliant

Description

The **STEVAL-VP318L2F** implements a 15 V-18 W isolated flyback converter in primary side regulation (PSR) developed for general purpose applications, operating from 90 to 265 V_{AC}.

The reference design is built around the **VIPER318LDTR** offline high-voltage converter which belongs to the VIPerPlus family and features an 800 V avalanche-rugged power MOSFET, PWM current mode control, fixed 60 kHz switching frequency with jittering to meet electromagnetic disturbance standards and burst mode for light load management.

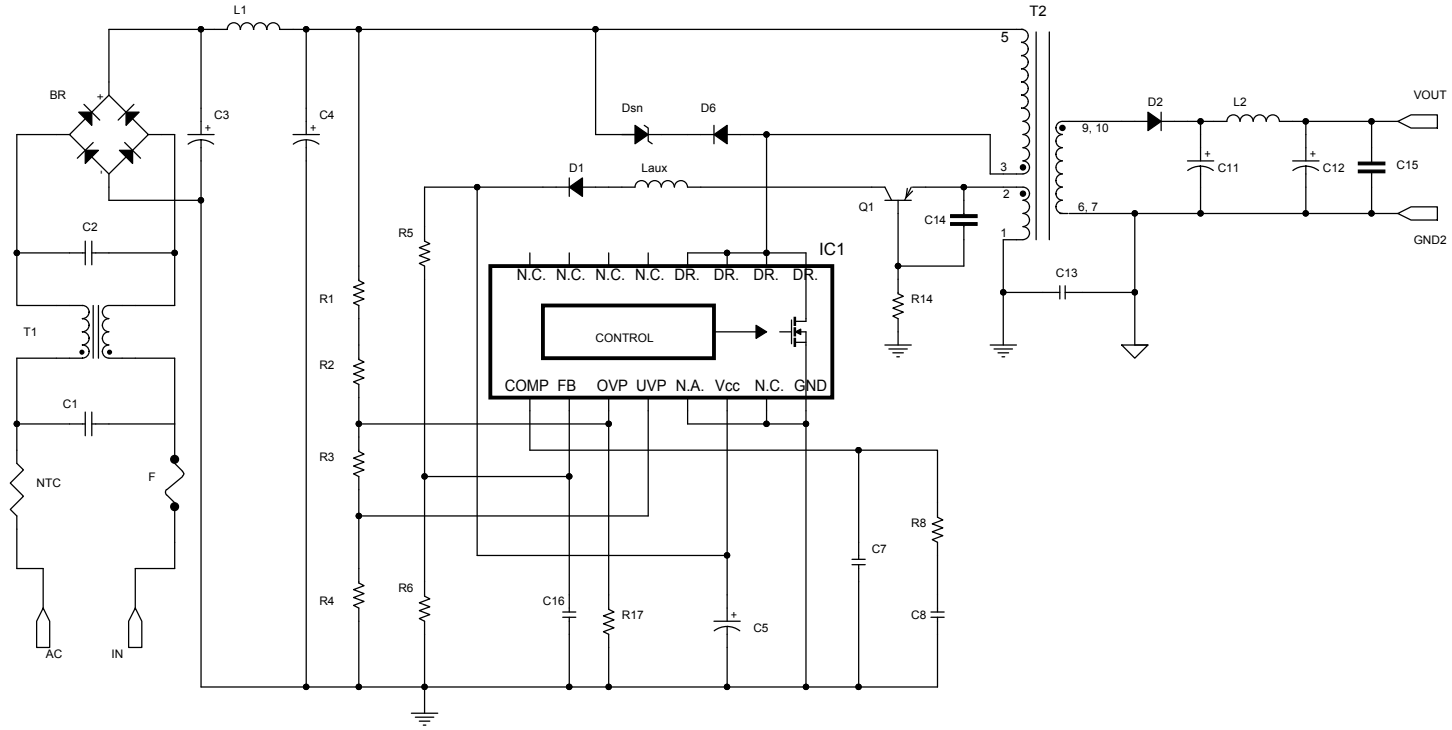
The evaluation board main characteristics are: small size, minimal BOM, high efficiency and tight line, load regulation over the entire input and output ranges.

Input overvoltage and undervoltage protections, with separate and settable intervention thresholds, are available at OVP and UVP pins.

Product summary	
15 V / 1.2 A PSR flyback converter based on VIPer318L	STEVAL-VP318L2F
Energy Saving Off-line High Voltage Converter	VIPER318LDTR
Applications	Power tools

1 Schematic diagrams

Figure 1. STEVAL-VP318L2F circuit schematic



Revision history

Table 1. Document revision history

Date	Version	Changes
30-Jun-2021	1	Initial release.

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, please refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2021 STMicroelectronics – All rights reserved