

15 V / 1.2 A SSR Flyback converter based on VIPer318L



Features

- Universal input mains range: 85 – 265VAC
- Frequency: 50-60Hz
- Output voltage: 15 V
- Output current: 1.2 A
- Stand-by mains consumption: < 55mW at 230VAC
- Average efficiency: > 85%
- Tight line and load regulation over the entire input and output range
- Meets IEC55022 Class B conducted EMI even with reduced EMI filter, thanks to the frequency jittering feature
- RoHS compliant
- WEEE compliant

Description

The **STEVAL-VP318L1F** reference design implements a 15 V - 18 W SSR isolated flyback converter developed for general purpose applications operating from 85 to 265 V_{AC}.

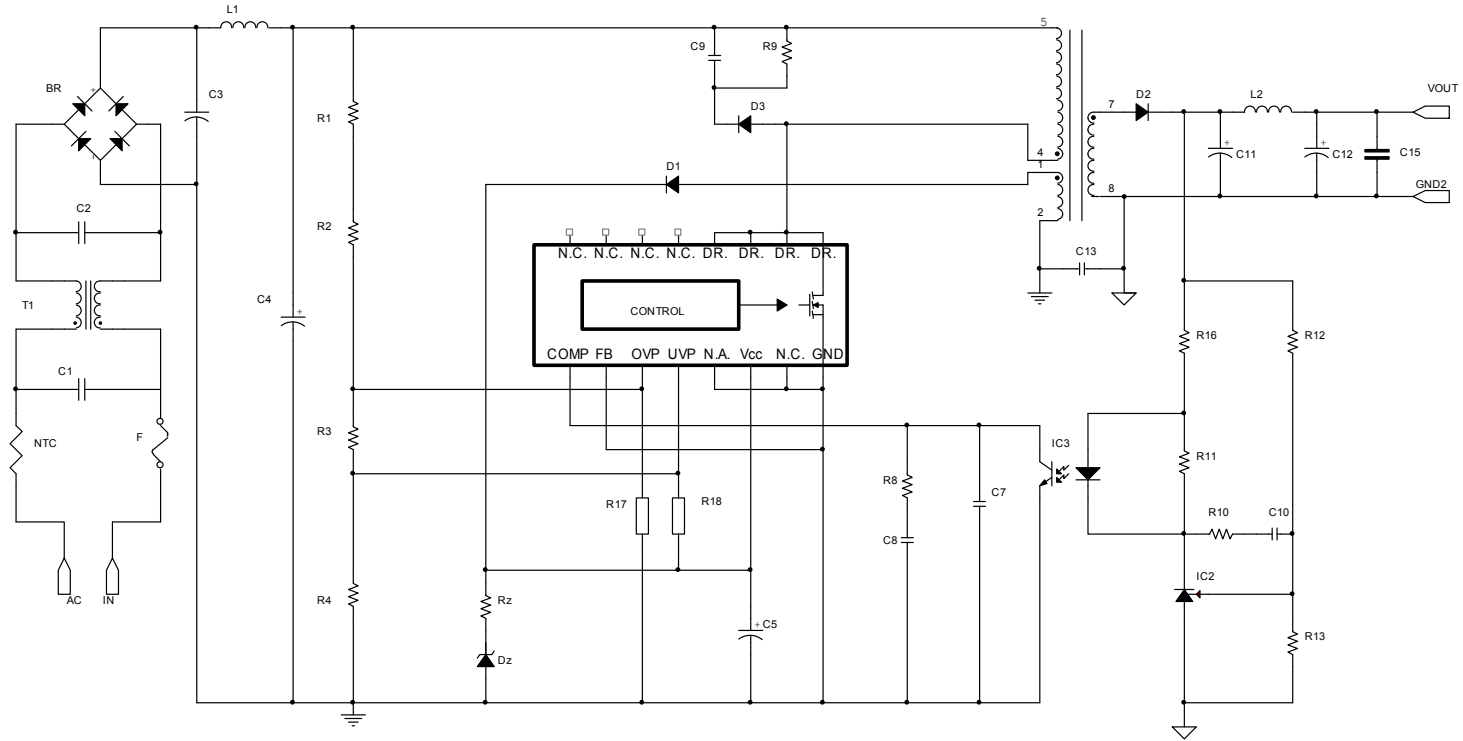
The design is built around the new **VIPer318L** offline high-voltage converter from the VIPerPlus family with 800 V avalanche-rugged Power MOSFET, PWM current-mode control, fixed 60 kHz switching frequency with jittering to satisfy electromagnetic disturbance regulations, and burst mode for light load management.

The board features a small size, minimal BOM, high efficiency, low stand-by consumption and tight line and load regulation over the entire input and output range. Input overvoltage and undervoltage protections with separate and settable trigger thresholds are available on the respective OVP and UVP pins.

Product summary	
15 V / 1.2 A SSR Flyback converter based on VIPer318L	STEVAL-VP318L1F
Energy Saving Off-line High Voltage Converter	VIPER318L
Applications	Isolated Auxiliary Power Supply up to 20W

1 Schematic diagrams

Figure 1. STEVAL-VP318L1F board schematic



Revision history

Table 1. Document revision history

Date	Version	Changes
03-Sep-2020	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.

© 2020 STMicroelectronics – All rights reserved