

SRK1000B adaptive synchronous rectification controller for flyback converter demonstration board with STF80N10F7

Data brief



Features

- Synchronous rectifier for flyback converter, with fixed turn-on and adaptive turn-off
- V_{CC} range: 3.5 V to 32 V
- DVS max. operating voltage 90 V
- Max. frequency: 500 kHz
- Internal gate drive for N-channel MOSFET
- SR MOSFET type: STF80N10F7 (100 V - 10 m Ω) TO-220FP

Description

The EVLSRK1000B-TO is a demonstration board, designed for evaluation of the SRK1000B synchronous rectification controller.

The SRK1000B implements a control scheme specific for secondary-side synchronous rectification in flyback converters and provides high-current gate-drive outputs for driving N-channel power MOSFET.

The device can operate both in quasi-resonant applications and in fixed frequency (FF) mixed DCM-CCM applications. The board is provided with a setting suitable for QR applications. To use in FF applications, a 100 pF capacitor needs to be added in C4. A 68 k Ω resistor (R5) is provided on the TON pin that fixes the blanking after the turn-on to about 0.8 μ s.

The board includes the SR MOSFET (TO-220FP package) and can be easily implemented into an existing converter to substitute rectifier diodes.

Revision history

Table 1. Document revision history

Date	Revision	Changes
19-Oct-2018	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. 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.

© 2018 STMicroelectronics – All rights reserved