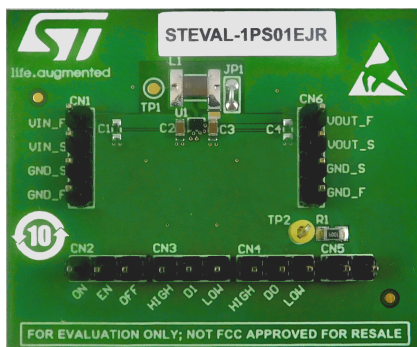


Evaluation board based on the ST1PS01EJR 400 mA nano-quiescent synchronous step-down converter



Features

- 500 nA input quiescent current at $V_{IN}=3.6$ V (not switching)
- 94% typical efficiency at 1 mA load ($V_{IN}=3.6$ V, $V_{OUT}=3.3$ V)
- 100% duty cycle
- 1.8 V to 5.5 V input operating range
- Undervoltage lockout: 1.57 V (V_{IN} falling, typ.)
- Up to 400 mA output current capability
- Low power control operation for the best efficiency
- Embedded soft-start circuit
- Tiny external components: $L=2.2$ μ H typ.
- Selectable output voltages: 1.8 V to 3.3 V
- Output voltage Power Good
- $\pm 1.5\%$ output voltage accuracy (V_{OUT} , $T_A=25$ °C)
- Dynamic output voltage selection (D0, D1)
- Available in flip-chip package
- Suitable for the following applications:
 - Wearable applications
 - Personal tracking monitors
 - Smart watches, sport bands
 - Energy harvesting, wireless sensors
 - Wearable and fitness accessories
 - Industrial sensors, portable low power devices
 - Single cell Li-Ion battery applications
 - Bluetooth® low energy
 - Zigbee
- Hardware is WEEE and RoHS compliant

Product summary	
evaluation board for ST1PS01 step-down converter	STEVAL-1PS01EJR
400 mA nano-quiescent synchronous step-down converter with digital voltage selection and power good	ST1PS01

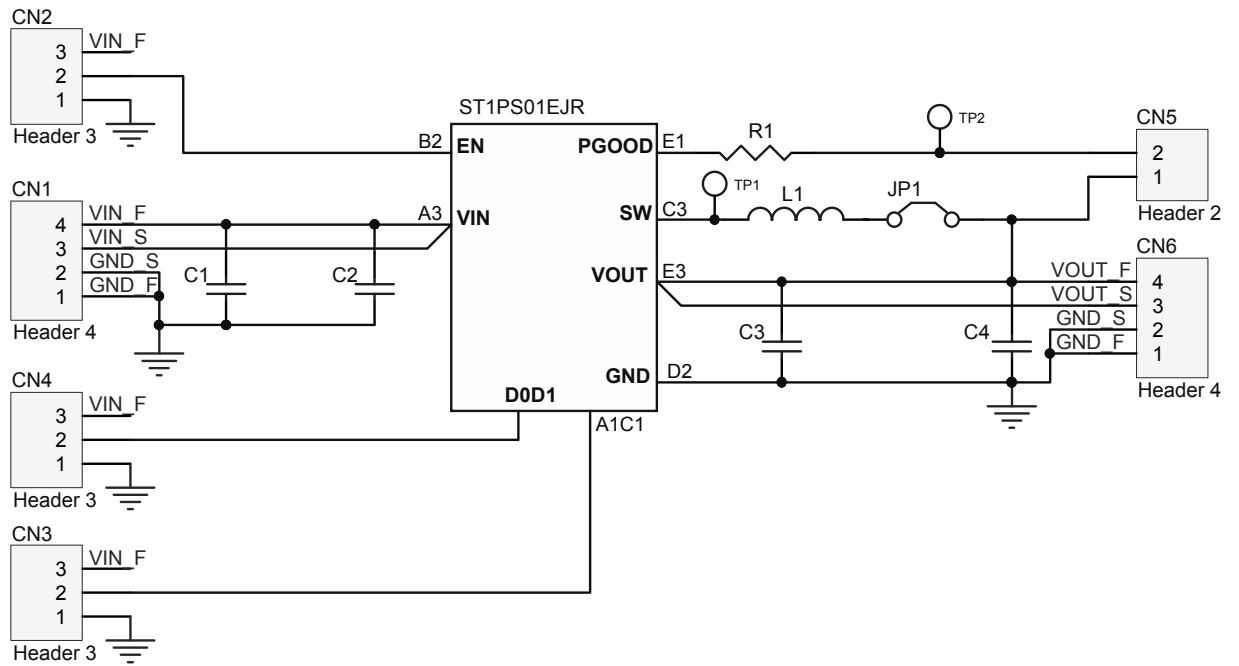
Description

The STEVAL-1PS01EJR evaluation board features the ST1PS01 is a nano-quiescent miniaturized synchronous step-down converter that is designed for applications where high efficiency, PCB size and thickness are the key factors.

The converter can provide up to 400 mA output current with an input voltage ranging from 1.8 V to 5.5 V. The output voltage can be dynamically adjusted from 1.8 V to 3.3 V using two digital control inputs.

Thanks to the enhanced peak current control (PCC), the ST1PS01 can achieve very high efficiency conversion using only a 2.2 μ H inductor and two small capacitors. The advanced design circuitry used minimizes the quiescent current.

2 Schematic diagrams

Figure 3. STEVAL-1PS01EJR schematic


Revision history

Table 1. Document revision history

Date	Version	Changes
21-Dec-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