STEVAL-ILL076V1
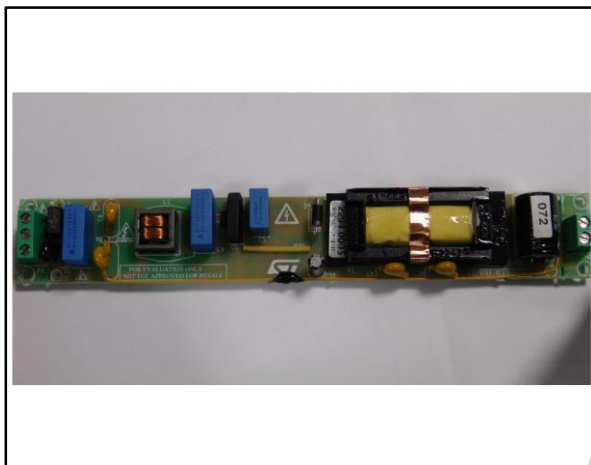
40 W European input-range ultra-slim flyback converter using the HVLED001 quasi resonant flyback controller

Data brief

Description

The STEVAL-ILL076V1 product evaluation board implements an offline power converter based on a single-stage high-PF flyback topology using the HVLED001 controller.

A very slim form factor is achieved using innovative magnetic parts. Output voltage is controlled by the primary side, reducing the need for costly opto-couplers. The precision of the HVLED001's PSR feature together with the innovative structure of the transformer make output voltage regulation very accurate against load and line changes.

Very high efficiency is obtained and a full set of protection features are implemented, including protection against output short-circuit and input overvoltage.

Conducted EMI is pre-screened and clearance and creepage distances are within EN60950 safety standards.

Power factor and THD measurements are optimized to be higher than 0.95 and lower than 10%, respectively, at full load.

The main application for this converter is bus power supply for an LED string driver providing 4 kV of isolation.

Features

- Input voltage: V_{IN}: 180 - 264 V_{RMS}, f: 45 - 66 Hz
- Output voltage: 56 V / 720 mA
- High power factor, low THD
- No-load: better than 400 mW @ 230 V_{IN}
- Full load efficiency: better than 92%
- Short-circuit protection with auto restart
- EMI: pre-compliant with EN55022 (B) limits
- Dimensions: 183 mm x 28 mm, h 17 mm
- PCB: single-side 35 µm, FR4, mixed PTH/SMD
- RoHS compliant

For further information contact your local STMicroelectronics sales office

www.st.com

1 Schematic diagram

Figure 1: STEVAL-ILL076V1 circuit schematic

GSPG1509150955SG

2 Revision history

Table 1: Document revision history

Date	Version	Changes
18-Sep-2015	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.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for LED Lighting Development Tools *category:*

Click to view products by STMicroelectronics *manufacturer:*

Other Similar products are found below :

MIC2870YFT EV   1278.1010   ADP1660CB-EVALZ   ADP8860DBCP-EVALZ   AS1119-DB   HV9919BDB1   LM2796TLEV   LM3404MREVAL   LP55231SQEVM   ADM8843EB-EVALZ   ADM8845EB-EVALZ   ADP8861DBCB-EVALZ   TDGL014   MIC2873YCS-EV   ISL97682IRTZEVALZ   UCC25710EVM-654   LM3508TLEV   LM3549SQEV/NOPB   LP3943ISQEV   EA6358NH   TPS61158EVM-565   TPS61187EVM-528   TLC5929EVM-118   ZLED7020Kit-D1 V2.0   XRP7613EVB   MAX16836EVKIT   MAX16834EVKIT+   MAX16826EVKIT   MAX16824EVKIT+   MAX16823EVKIT+   MAX16822BEVKIT+   MAX16821BEVKIT+   MAX16820EVKIT+   MAX16803EVKIT+   NCL30081LEDGEVB   STEVAL-ILL002V4   MAX16833EVKIT+   MAX16839EVKIT+   TPS92315EVM-516   KIT12XS6EVM   DC994A   ISL78171EVAL1Z   TLC59282EVM-118   MAX6956EVKIT+   OM13321,598   DC805A   DC381A   ADM00942   3106   ADM00939