



# STEVAL-TLL010V1

Driver for up to 6 white LEDs for display backlights  
based on the STLA02

Data brief

## Features

- Boost DC-DC converter
- Drives up to 6 LEDs with a total current up to 20 mA
- Output power capability up to 500 mW
- Input voltage range 2.5 V to 18 V
- Output current control
- 2.3 MHz switching frequency
- PWM input for the output current dimming with 300:1 dimming range
- 350 mA integrated switch
- Overvoltage protection
- Chip overtemperature detection and protection
- Soft-start implemented
- RoHS compliant



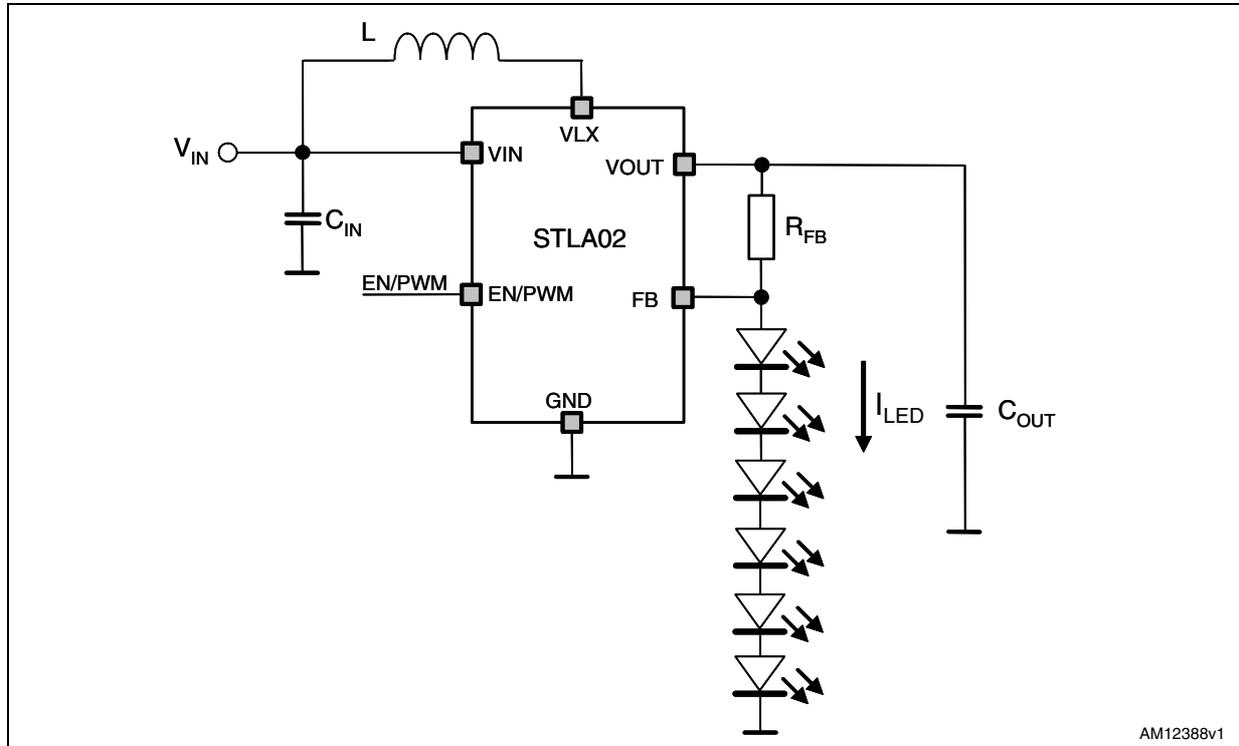
## Description

The STEVAL-TLL010V1 demonstration board is based on the STLA02, a boost converter dedicated to powering and controlling the current of white LEDs in an LCD backlight. The device operates at a typical constant switching frequency of 2.3 MHz. It steps an input voltage ranging from 2.5 V to 18 V, up to 27 V. The output current is adjustable by the resistor RFB connected between the  $V_{OUT}$  and FB pins. The STLA02 device contains high-side sensing to simplify the PCB layout in terms of LED connection.

The output current is dimmable by the PWM signal applied to the EN pin with minimum PWM frequency equal 100 Hz.

# 1 Schematic

Figure 1. Schematic



## 2 Revision history

Table 1. Document revision history

Date	Revision	Changes
11-Jun-2012	1	Initial release.

**Please Read Carefully:**

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

**UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.**

**UNLESS EXPRESSLY APPROVED IN WRITING BY TWO AUTHORIZED ST REPRESENTATIVES, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER'S OWN RISK.**

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2012 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

[www.st.com](http://www.st.com)

## 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](#) [ADP8860DBCP-EVALZ](#) [LM3404MREVAL](#) [ADM8843EB-EVALZ](#) [TDGL014](#) [ISL97682IRTZEVALZ](#) [LM3508TLEV](#)  
[EA6358NH](#) [MAX16826EVKIT](#) [MAX16839EVKIT+](#) [TPS92315EVM-516](#) [MAX6956EVKIT+](#) [OM13321,598](#) [DC986A](#) [DC909A](#) [DC824A](#)  
[STEVAL-LLL006V1](#) [IS31LT3948-GRLS4-EB](#) [104PW03F](#) [PIM526](#) [PIM527](#) [MAX6946EVKIT+](#) [MAX20070EVKIT#](#) [MAX21610EVKIT#](#)  
[MAX6951EVKIT](#) [MAX20090BEVKIT#](#) [MAX20092EVSYS#](#) [PIM498](#) [AP8800EV1](#) [ZXLD1370/1EV4](#) [MAX6964EVKIT](#) [TLC59116EVM-](#)  
[390](#) [1216.1013](#) [TPS61176EVM-566](#) [TPS61197EVM](#) [TPS92001EVM-628](#) [1270](#) [1271.2004](#) [1272.1030](#) [1273.1010](#) [1278.1010](#) [1279.1002](#)  
[1279.1001](#) [1282.1000](#) [1293.1900](#) [1293.1800](#) [1293.1700](#) [1293.1500](#) [1293.1100](#) [1282.1400](#)