



EVL6564H-100W

100 W transition-mode PFC pre-regulator demonstration board based on the L6564H

Data brief

Features

- Line voltage range: 90 to 265 Vac
- Minimum line frequency (f_L): 47 Hz
- Regulated output voltage: 400 V
- Rated output power: 100 W
- Maximum $2f_L$ output voltage ripple: 20 V pk-pk
- Hold-up time: 10 ms (V_{DROPP} after hold-up time: 300 V)
- Minimum switching frequency: 40 kHz
- Minimum estimated efficiency: 92% (@ $V_{in} = 90$ Vac, $P_{OUT} = 100$ W)
- Maximum ambient temperature: 50 °C
- PCB type and size: single side, 35 μ m, CEM-1, 90 x 83 mm



isolated DC-DC converter that provides the output rails required by the load.

Description

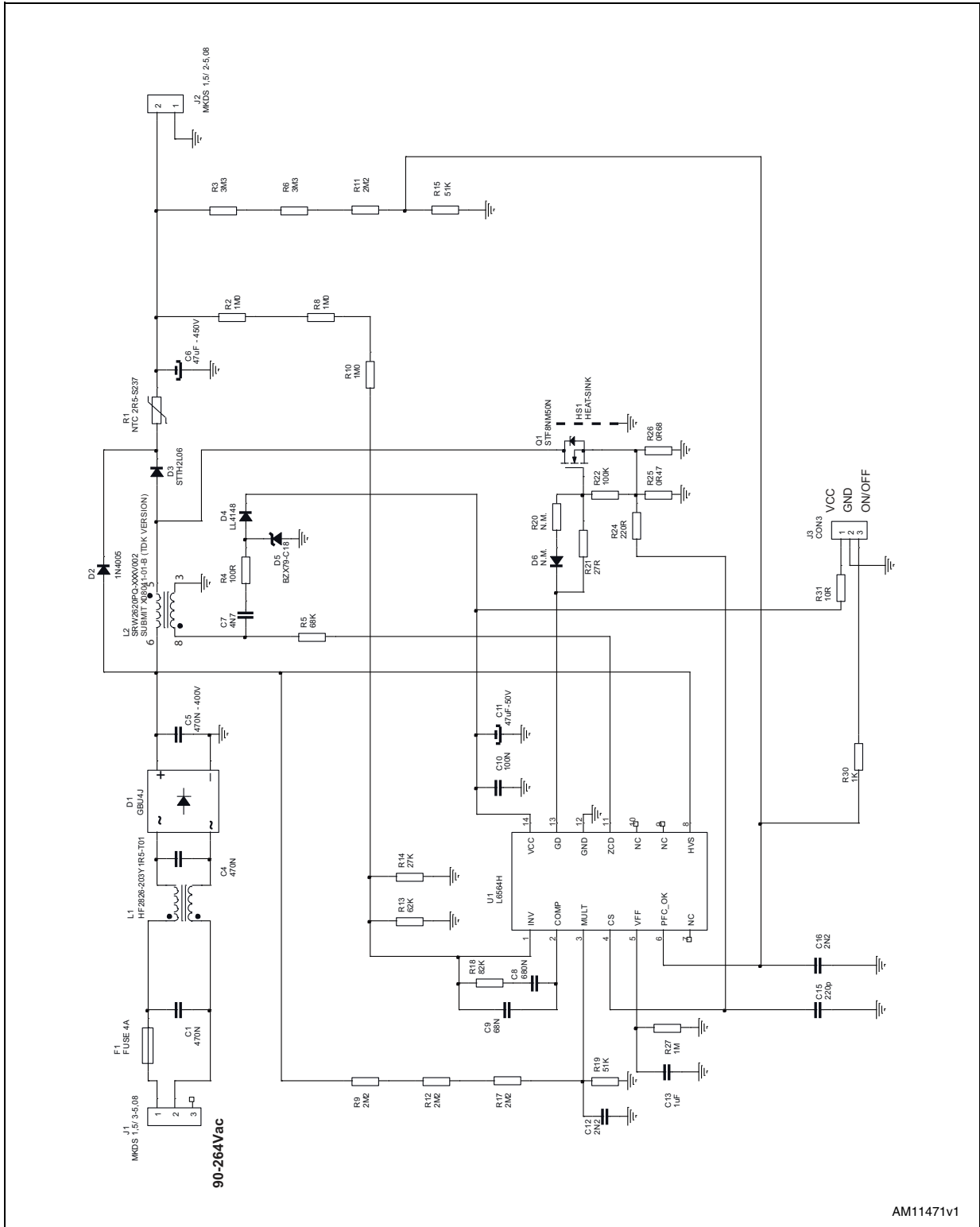
This demonstration board is based on the new transition-mode PFC controller L6564H and implements a 100 W, wide-range mains input, PFC pre-conditioner suitable for ballast, adapters, flat screen displays, and all SMPS having to meet IEC61000-3-2 or JEITA-MITI regulations.

The L6564H is a current-mode PFC controller operating in transition mode (TM) which embeds the same features existing in the L6564 with the addition of a high voltage startup source. These functions make the IC especially suitable for applications that must be compliant with energy saving regulations and where the PFC pre-regulator works as the master stage.

The EVAL6564H-100W implements a power factor correction (PFC) pre-regulator 100 W, continuous power, on a regulated 400 V rail from a wide-range mains voltage and providing for the reduction of the mains harmonics, allowing the European EN61000-3-2 or the Japanese JEITA-MITI standard to be met. The regulated output voltage is typically the input for the cascaded

1 Electrical schematic

Figure 1. Electrical schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
16-Apr-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