

STEVAL-ISA054V1

100 W 3-phase auxiliary power supply demonstration board based on the STW9N150

Features

■ Input voltage

- connector 1: 400 Vac RMS ± 20%

■ Input voltage

connector 2: 180 - 265 Vac RMS

Input frequency: 50 HzOutput 1: 24 V @ 4 A

■ Output 2: 5V @ 1 A or 3.3 V @ 1 A

Output power: 100 W
Safety: EN60950
EMI: EN55014
RoHS compliant



STEVAL-ISA054V1

Description

This demonstration board introduces a solution for industrial power supplies. It takes advantage of the high voltage Power MOSFET, i.e. 1500 V breakdown voltage, to optimize the operation of the flyback converter based on the primary controller UC3844B.

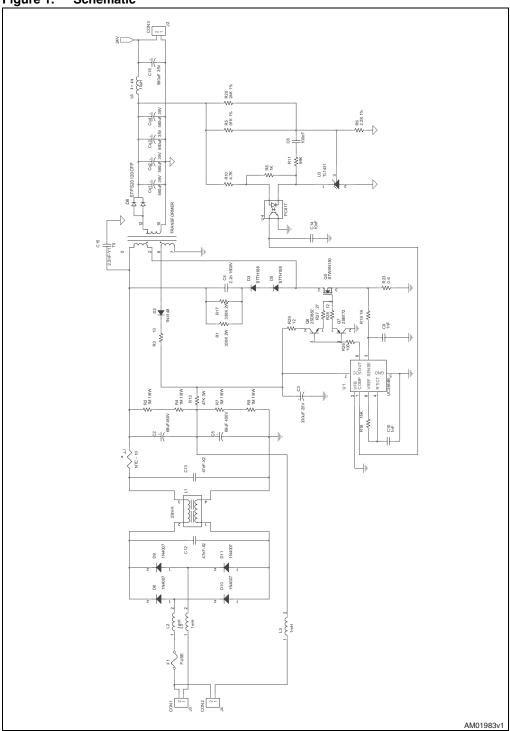
The demonstration board has been designed and developed in order to address medium power applications. The board features two outputs, 24 V, 5V or 3.3 V, and is able to deliver more than 100 W in total.

The 5 V/3.3 V output is obtained by means of an integrated DC-DC converter based on L5970D, connected to the 24 V output, and adjustable by means of an external voltage divider.

Circuit schematic STEVAL-ISA054V1

1 Circuit schematic

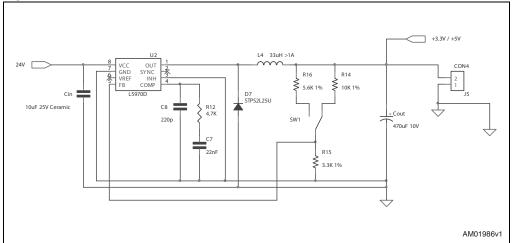




2/5 Doc ID 15545 Rev 2

STEVAL-ISA054V1 Circuit schematic

Figure 2. DC-DC converter



Revision history STEVAL-ISA054V1

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
01-Apr-2009	1	Initial release
11-May-2009	2	Updated features in cover page

4/5 Doc ID 15545 Rev 2

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 AN AUTHORIZED ST REPRESENTATIVE, 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.

© 2009 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



Doc ID 15545 Rev 2

5/5