



Description

The EVAL-L9942 is the Evaluation Board designed to provide the user a platform to evaluate the device L9942. The L9942 is a motor driver for bipolar stepper motors with micro-stepping and programmable current profile look-up-table to allow a flexible adaptation of the motor characteristics and intended operating conditions. Different current profiles can be chosen depending on target criteria: audible noise, vibrations, rotation speed or torque. The decay mode used in PWM-current control circuit can be programmed to have slow, fast, mixed and auto-decay. The programmable stall detection is useful to avoid running the motor too long time in stall position minimizing the noise. The EVAL-L9942 board provides all the inputs and outputs capabilities necessary to drive correctly a bipolar stepper motor and also to monitoring diagnostic functionalities. The board can be connected to the discovery boards developed for the SPC56 microcontroller.

Features

- Input signal connector compatible with the SPC56 Discovery boards. Possibility to connect the board to further microcontroller discovery or control boards by a simple adaptor.
- Two output terminal blocks.
- Wide supply voltage range (V_{Batt}): 7 V ÷ 20 V.
- 2 LEDs for monitoring V_{Batt} and EN signal.
- Device controlled and programmed via SPI.
- L9942 diagnostic functions via SPI.
- Test points to monitoring both input signals (SPI, PWM, EN, StepClock) and the four outputs (out power stage).
- No heat-sink is required

Table 1: Device summary

Order code	Reference
EVAL-L9942	EVAL-L9942 evaluation board

Contents

- 1 System requirements, HW and SW resources 3**
 - 1.1 System requirements 3
- 2 Revision history 4**

1 System requirements, HW and SW resources

1.1 System requirements

- Power Supply: 7 V \div 20 V; 3 A
- SPC56 discovery board or microcontroller board able to offer SPI signals, EN, StepClock, PWM signals and +5 V (V_{cc})

2 Revision history

Table 2: Revision history

Date	Revision	Changes
17-Dec-2013	1	Initial release.
24-Mar-2015	2	Updated image in cover page.

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.

© 2015 STMicroelectronics – All rights reserved