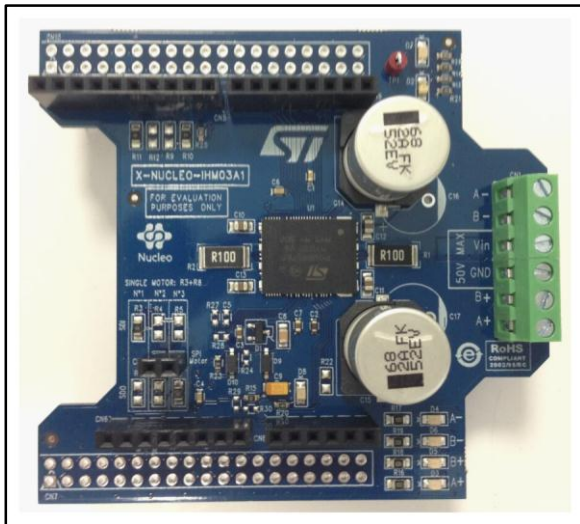


High power stepper motor driver expansion board based on powerSTEP01 for STM32 Nucleo

Data brief



Description

The X-NUCLEO-IHM03A1 is an high power stepper motor driver expansion board based on powerSTEP01. It provides an affordable and easy-to-use solution for driving high power bipolar stepper motors in your STM32 Nucleo project. The fully digital motion control through speed profile generation, adding positioning calculations and a complete set of protection features, offers high levels of performance and robustness. The X-NUCLEO-IHM03A1 is compatible with the Arduino UNO R3 connector, and supports the addition of other boards which can be stacked to drive up to three stepper motors with a single STM32 Nucleo board.

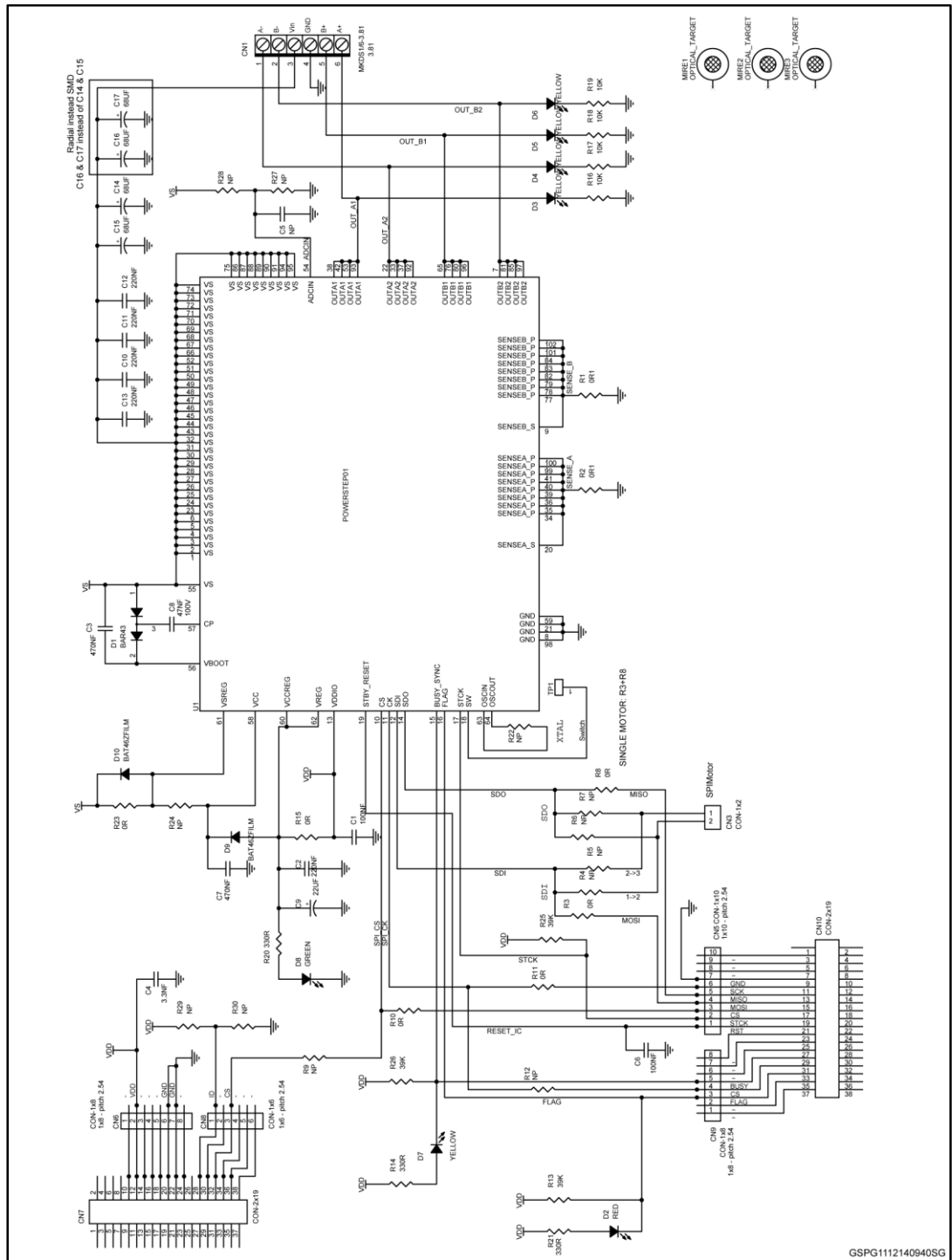
Features

- Power system-in-package, integrated dual full-bridge with low RDS(on)
- Voltage range from 10.5 V to 85 V
- Phase current up to 10 A rms
- Power OK and fault LEDs
- Up to 1/128 micro-stepping
- Programmable speed profile and overcurrent protection
- Sensorless stall detection
- Adjustable output slew rate
- Overtemperature protection
- Compatible with Arduino UNO R3 connector
- Compatible with STM32 Nucleo boards
- Suitable for multi-motor solution
- RoHS compliant



1 Schematic diagram

Figure 1: X-NUCLEO-IHM03A1 circuit schematic



2 Revision history

Table 1: Document revision history

Date	Rev	Changes
15-Dec-2014	1	First release.
08-Jun-2015	2	Updated: title and board photo on the 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