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STEVAL-SPMD150V2

1.5 A bipolar stepper motor drive module (SPMD150STP) demonstration board

Data brief

Features

- Ready-to-use board for SPMD150STP demonstration
- Easy interfacing with PractiSPIN™ software
- Simulates:
 - Normal/half-step sequence and microstepping
 - Fast/slow decay
 - Forward/reverse
 - Enable
- Phase current selectable for acceleration/deceleration ramp, running and stop mode
- Possibility to program moving and waiting time sequences
- RoHS compliant

Description

This STEVAL-SPMD150V2 demonstration board is designed for evaluating the performance and the features of the SPMD150STP module. The board works in conjunction with the PractiSPIN™ HW and the PractiSPIN™.spmd SW, which allow the user to operate with the SPMD150STP module.

The SPMD150STP is part of the EASY POWER™ series of fully integrated modules designed to drive bipolar permanent-magnet stepper motors.

All EASY POWER modules offer an easy-to-use, fully-protected solution to implement precise position control, with high torque at rest, and without the need for external components. The module operates over a wide 12 V to 40 V input voltage range and supports an output maximum current of 1.5 A.

The SPMD150STP implements full/half-step and microstepping driving capability, working at a variable chopper frequency. It is possible to select



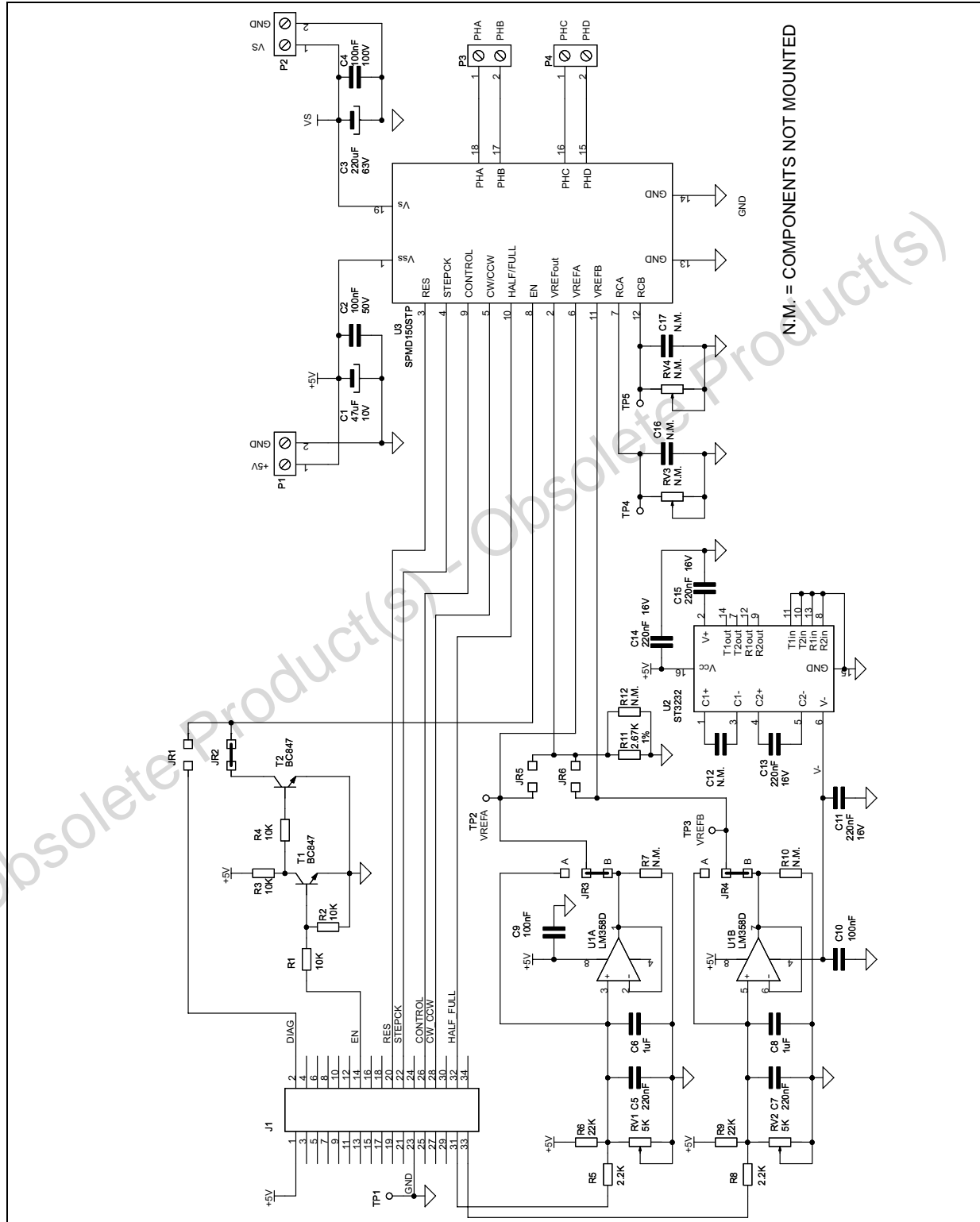
STEVAL-SPMD150V2

between fast and slow decay current. The module internally generates the phase sequence, significantly reducing the burden on the controller. Integration of a power MOSFET stage significantly reduces both commutation and conduction losses. The SPMD150STP offers complete output protection against all types of short conditions. The metal package acts as an integrated heatsink, with no ventilation or additional components required. The metal case also isolates the inner circuit from external agents, making the module suitable for operation in harsh environments.

The STEVAL-SPMD150V1 supports the following measurements and demonstrations: full/half-step, microstepping, CW/CCW, control behavior, motor current waveforms and measurements, movement sequences.

1 Circuit schematic

Figure 1. Circuit schematic



2 Revision history

Table 1. Document revision history

| Date | Revision | Changes |
|-------------|----------|------------------|
| 24-Nov-2010 | 1 | Initial release. |

Obsolete Product(s) - Obsolete Product(s)

STEVAL-SPMD150V2

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