

Product Overview

AMIS-30543: Microstepping motor driver

For complete documentation, see the [data sheet](#).

The AMIS30543 is a micro stepping stepper motor driver for bipolar stepper motors. The chip is connected through IO pins and a SPI interface with an external microcontroller. It has an on chip voltage regulator, reset output and watchdog reset able to supply peripheral devices. AMIS30543 contains a current translation table and takes the next micro step depending on the clock signal on the NXT input pin and the status of the DIR (direction) register or input pin. The chip provides a speed and load angle output. This allows the creation of stall detection algorithms and control loops based on load angle to adjust torque and speed. It is using a proprietary PWM algorithm for reliable current control. The AMIS30543 is implemented in I2T100 technology enabling both high voltage analog circuitry and digital functionality on the same chip. The chip is fully compatible with the automotive voltage requirements.

Features

- Programmable peak current up to 3A
- 128 micro steps
- Speed and load angle output
- Programmable PWM voltage slopes
- Active flyback diodes
- Integrated power and watchdog support for an external MCU

Applications

- CNC equipment

Benefits

- High level of integration and lower system cost
- Higher system resolution and quieter motor operation
- Enabled true sensorless closed loop control of the motor
- Optimized EMC profile
- Lower BOM cost and higher reliability
- Reduced total system complexity and BOM cost

End Products

- Industrial manufacturing equipment
- Textile equipment

Application Diagram

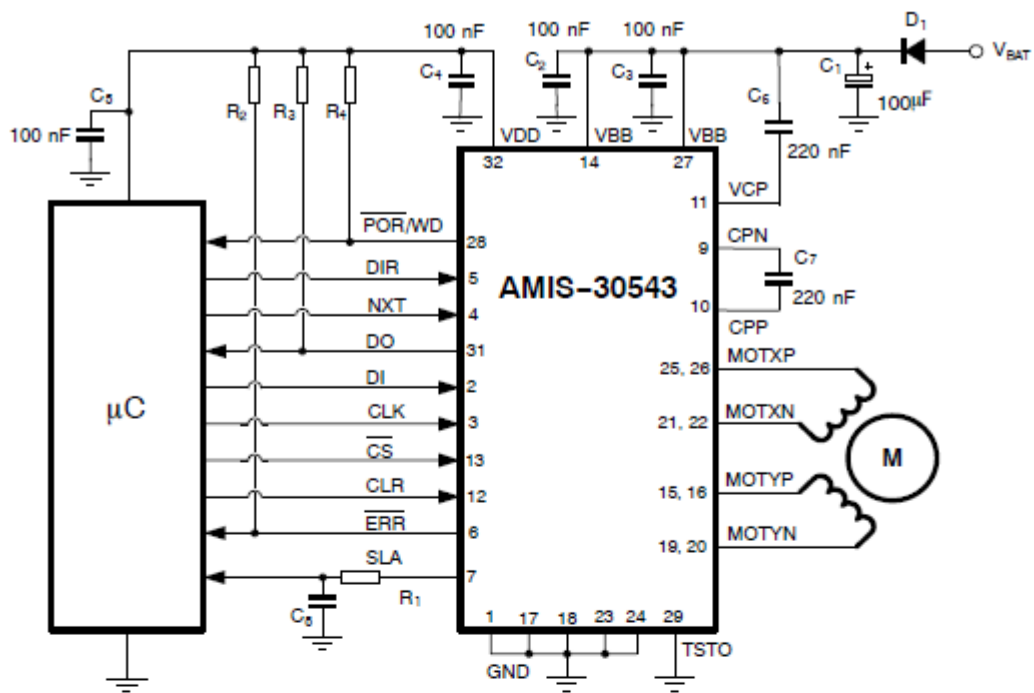


Figure 7. Typical Application Schematic AMIS-30543

For more information please contact your local sales support at www.onsemi.com.

Created on: 4/16/2021