TMC401

Step / Direction to SPI converter

INFO

The TMC401 converts step/direction signals into SPI datagrams that can be used to drive a TMC236, TMC239, TMC246 or TMC249 stepper motor driver chip directly. It provides five different microstep resolutions (from 1/32 to 1/2) as well as two full step resolution modes. The stallGuard™ bits of a TMC246 or TMC249 motor driver are output on three pins, in order to allow an easy usage of the stallGuard™ feature. Also the overtemperature pre-warning bit is output on one extra pin (and can be used to shut off the driver when there is an overtemperature pre-warning condition).

The TMC401 also provides a feature that reduces the motor current to 25% when there have not been any step pulses for at least one second. This features can be enabled or disabled. Mixed Decay can also be enabled or disabled using a dedicated pin.

The evaluation board contains the TMC401 and different driver configurations of the TMC249 wit external MOSFETs.

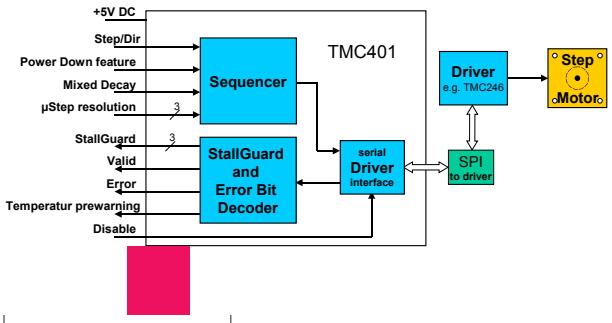
MAIN CHARACTERISTICS

- step / directon signal to SPI converter
- allow step-/direction control for TMC236, TMC246, TMC239, TMC249 drivers
- outputs for stallGuard™ value and driver OTPW flag
- resolution control from fullstep up to 1/32 microsteps
- optional power down control
- mixed decay selectable

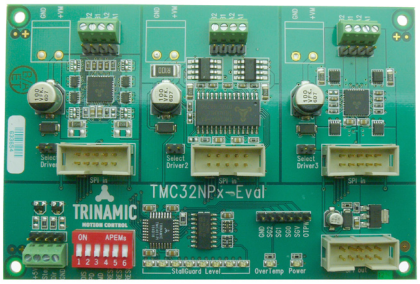
INTERFACE
- step-/direction input up to 245kHz
- SPI output

ELECTRICAL DATA
- 5V supply
- 5V CMOS / TTL compatible IOs

PACKAGE
- TQFP32 package
- RoHS compliant



10 mm



ORDER CODE	DESCRIPTION
TMC401-PI	Step / direction to SPI converter in TQFP-32 package
TMC32NPx-EVAL	Evaluation board for TMC401-PI, TMC249A-LA & TMC32NP-MLP, TMC249A-SA & TMC32NP2-SM8 and TMC249A-LA & TMC34NP-PSO