

# TMC 239

## Microstep Driver for External FETs for up to 4A Phase Current

The **TMC239** is a smart high current microstepping driver for bipolar stepper motors. It provides an SPI™ interface as well as the classical analog / digital control. A full set of protection and diagnostic features makes this device very rugged. It directly drives external MOSFETs for currents of up to 4A . (A list of compatible power MOSFETs is given within the datasheet.) This way it reaches an extremely high efficiency and allows driving of a high motor current without cooling measures even at high environment temperatures. With the new chip-scale QFN package a 4A motor driver can be realized on the size of a stamp!

The high motor current makes this device ideal for miniaturized highly dynamic and high torque drive systems.

### Electrical data

- up to 4000 mA coil current (peak) with just 8 external MOSFETS
- 7V to 34V motor supply (TMC239A), up to 60V using a few add. components
- higher current / voltage using additional gate drivers
- 3.3V or 5V operation for digital part

### Main characteristics

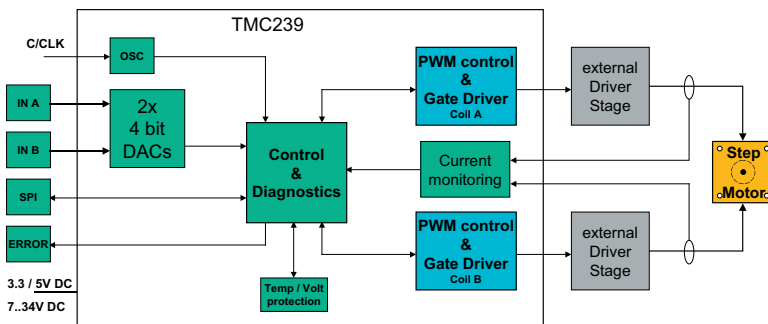
- full protection and diagnostics
- low power dissipation
- 16 times microstepping via SPI, 64 times using additional shift register, even more via analog control
- mixed decay for smooth operation
- programmable slope control for low EME
- internal or external chopper clock
- standby and shutdown mode

### Interface

- easy-to-use SPI™ interface
- classical analog interface

### Package

- standard SO28 package
- chip size QFN32 package
- RoHS compliant



ORDER CODE	DESCRIPTION
TMC239A-SA	4A driver for external MOSFETs SO28
TMC239A-LA	4A driver for external MOSFETs QFN32
TMC239-EVAL	evaluation board

For further detailed information and datasheets please refer to our website <http://www.trinamic.com>.