

TMC 453

High End Motion Controller with Encoder Interface for Stepper Motors

The **TMC453** is a high-end motor controller for all common 2-, 3-, and 5-phase stepper motors. It provides encoder feedback for high reliability or high position resolution drives. A large set of motion control features is included on this IC. The various function blocks are hardwired and „ready-to-use“. All processes can be serialized using the instruction based interface. A complete linear & S-shaped ramp generation unit is integrated within the TMC453. All dynamic parameters can be adjusted for a given application in a very broad range. The CPU is relieved from all time critical tasks like ramp calculation or microstep generation. Thus CPU and software engineer can focus on higher level motion control jobs. In many applications, the TMC453 reduces the time time-to-market, and it saves costs for software development and hardware engineering. The TMC453 turns stepper motors into easy to use peripherals!

A PC based evaluation kit is available that comes together with software for demonstration of all TMC453 capabilities.

Main characteristics

- controls 2-, 3-, and 5-phase stepper motors
- full step, half step, sine-step
- relieves CPU from all time critical tasks
- incremental encoder interface
- pulse generation from mHz to MHz
- S-shaped and linear ramp generation
- PID controller for holding the position
- synchronization of multiple TMC453
- three integrated 8-bit DACs
- interrupt controller

Interface

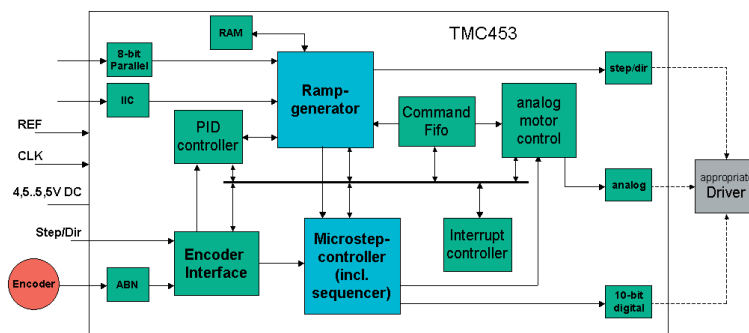
- parallel interface
- serial IIC bus interface

Electrical data

- 5V supply

Package

- PLCC68
- for medical applications only (no RoHS)



ORDER CODE	DESCRIPTION
TMC453-PI	1-axis controller PLCC68 package
TMC453-EVAL	evaluation board

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