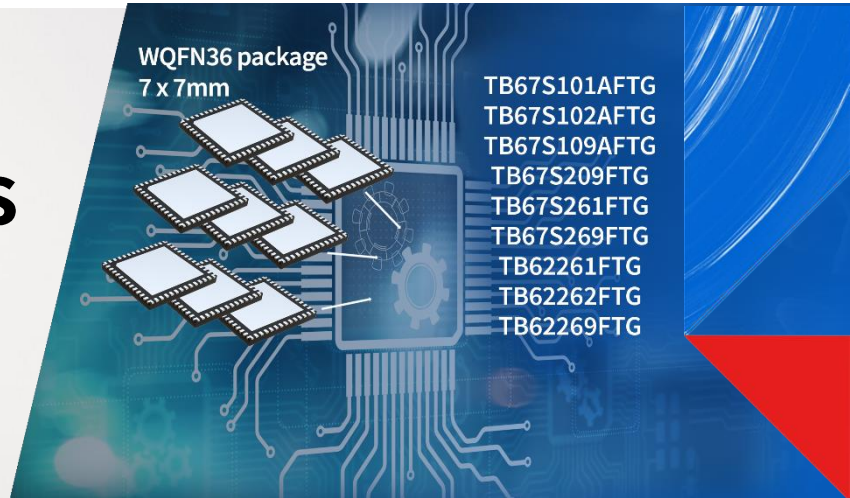


# Stepper Motor Drivers

## 9 Footprint Compatible Devices



## Stepper Motor Drivers with Multiple Interfaces

This set of nine footprint compatible bipolar stepper motor drivers can be controlled by phase and clock interfaces. They support up to 1/32 micro steps and come with extended features like advanced dynamic mixed decay (ADMD) and built in error detection functions such as over current and over temperature. The integrated low  $R_{DS(ON)}$  H-Bridges have a drive capability of up to 50V and up to 4A.

### Applications

- 3D printer
- Linear actuators
- Textile & sewing machines
- Surveillance camera
- Industrial equipment
- Point of Sales (PoS)

### Features

- Clock and phase control interface
- Up to 1/32 micro steps
- Rating: 10-50V, up to 4A
- Low  $R_{DS(ON)(H+L)} = 0.49\Omega$  (typ.)
- Constant current drive
- Single voltage supply
- Footprint compatible package

### Advantages

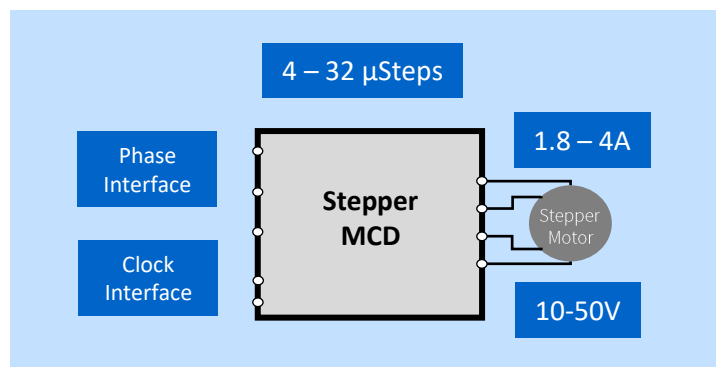
- Micro stepping leads to smooth motor operation
- Flexible and simple control
- Built-in:
  - Charge-pump
  - H-Bridge
  - Error detection

### Benefits

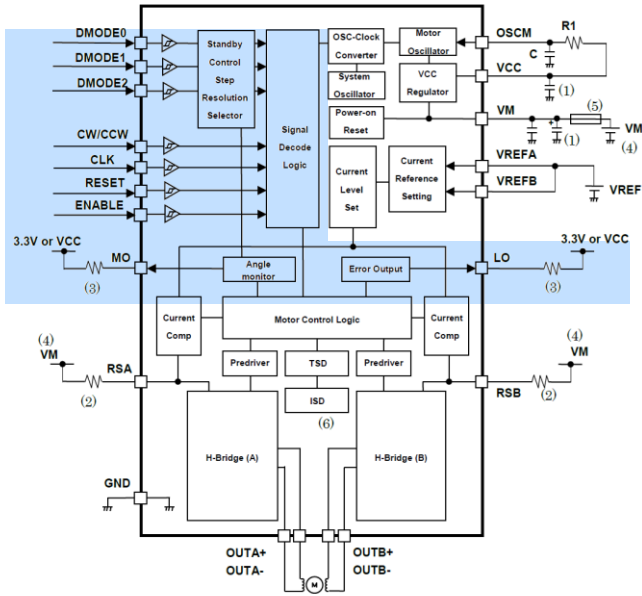
- One PCB (platform) design with 9 device options gives high system scalability
- High integration requires less external components
  - Lower bill of material (BoM) costs
  - Saving PCB space
- Error detection functions improve system reliability

### 9-in-1 concept: 9 devices - 1 PCB design

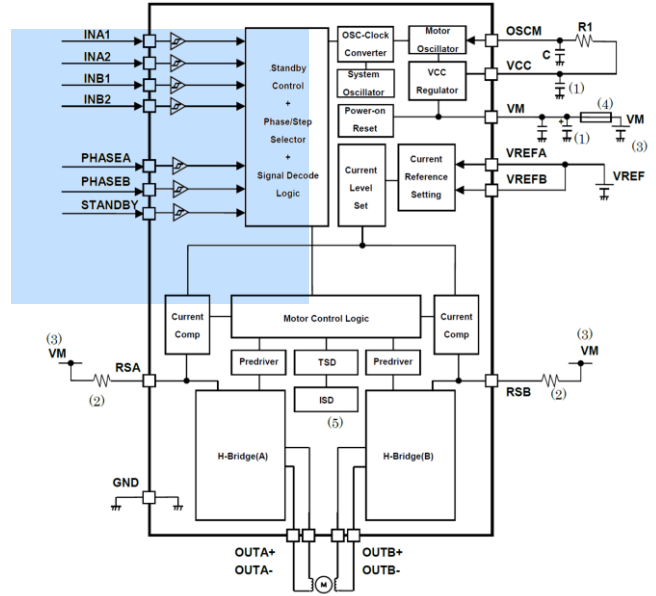
It is possible to implement any of the 9 devices with different interfaces, functions, and drive capabilities onto the PCB by making minor jumper settings. Giving you the possibility to select the optimal device for your application and easily change functionality by connecting an identical PCB with a different device.



## Clock interface devices



## Phase interface devices



Partnumber	μSteps	Rating	LO	ADMD
TB67S109AFTG	32	50V 4A	yes	yes
TB67S269FTG	32	50V 2A	yes	yes
TB67S102AFTG	4	50V 4A	no	yes
TB67S209FTG	32	50V 4A	yes	no
TB62269FTG	32	40V 1.8A	yes	no
TB62262FTG	4	40V 1.8A	no	no

Partnumber	μSteps	Rating	LO	ADMD
TB67S101AFTG	4	50V 4A	no	yes
TB67S261FTG	4	50V 2A	no	yes
TB62261FTG	4	40V 1.8A	no	no

## Functions of the stepper motor drivers

### Micro stepping

Up to 32 micro steps are supported with the clock interface and 4 micro steps with the phase interface devices.

### Advance dynamic mixed decay function (ADMD)

Uses the internal current feedback to control the threshold level when switching from fast to slow decay mode automatically. This leads to more effective and precise motor control.

### Single voltage supply

Internal voltages are provided by the integrated voltage regulator from the motor supply voltage (VM).

### Thermal shutdown function (TSD)

When the junction temperature ( $T_j$ ) of the IC exceeds 160°C (typ.).

### Over current detection function (ISD)

When the output current exceeds the individual device threshold level the output transistors are switched off.

### LO

This output pin signals a thermal or over current shutdown to a controlling unit.



### Low cost evaluations boards

The MikroElektronika (MIKROE) Click boards™ allow quick and easy device evaluation and prototyping.

[MIKROE Multi Stepper Click](#)



### Toshiba stepper motor drivers

[Further product information on website](#)

