



Toshiba's 50V motor driver ICs reduce component count, save board space and enable second sourcing strategies

Latest devices are drop-in compatible with popular competing devices

Düsseldorf, Germany, 15 June 2023 – Toshiba Electronics Europe GmbH (“Toshiba”) has just introduced four new motor driver ICs. The series includes two constant-current dual H-bridge drivers for driving up to two motors each, and a pair of two-phase bipolar stepping motor driver ICs. All four new Toshiba drivers feature built-in charge pump capacitors. This means that even more board space can be saved, and overall system costs can be lowered.

The TB67S581FNG and the TB67S580FNG are two-phase bipolar stepping motor drivers. Both devices feature a motor output voltage rating up to 50V, with the TB67S581FNG having an output current rating up to 2.5A and the TB67S580FNG being rated up to 1.6A.

The TB67H481FNG and TB67H480FNG are constant-current dual H-bridge drivers, also featuring a motor output voltage rating up to 50V and an output current rating up to 2.5A. These ICs can be used to power DC brushed motors or bipolar stepping motors. The pair offer a choice between input interfaces, with the TB67H481FNG using a pulse-width modulated (PWM) input while the TB67H480FNG employs a PHASE/ENABLE input.

All four devices support motor power supply voltages from 8.2V to 44V operational range, and consume less than 10 μ A (typ.) in sleep mode. They are housed in HTSSOP28 packages with 6.4mm x 9.7mm dimensions. The mounting area of this package is approximately 39% smaller compared to the previous generation. Motor output on-resistance ($R_{DS(ON)}$) is only 0.4 Ω (typ.) for both high-side and low-side (at 24V when a 2A output current is applied). Safety features include overcurrent, thermal shutdown and undervoltage lockout detection.

Key applications for the new Toshiba drivers include multifunction printers, automatic teller machines (ATMs), surveillance cameras, factory automation and robotics.

Alongside the motor driver ICs, compact evaluation boards are available. Created in partnership with MikroElektronika, extending its Click Board™ series, Stepper 9 Click (TB67S581FNG), Stepper 20 Click (TB67S580FNG), DC Motor 13 Click (TB67H481FNG) and DC Motor 23 Click (TB67H480FNG) are supported by a mikroSDK-compliant library, simplifying software development.

More information about the motor driver ICs can be found on Toshiba's website:

<https://toshiba.semicon-storage.com/eu/semiconductor/product/motor-driver-ics/stepping-motor-driver-ics/detail.TB67S581FNG.html>

<https://toshiba.semicon-storage.com/eu/semiconductor/product/motor-driver-ics/stepping-motor-driver-ics/detail.TB67S580FNG.html>

<https://toshiba.semicon-storage.com/eu/semiconductor/product/motor-driver-ics/brushed-dc-motor-driver-ics/detail.TB67H481FNG.html>

<https://toshiba.semicon-storage.com/eu/semiconductor/product/motor-driver-ics/brushed-dc-motor-driver-ics/detail.TB67H480FNG.html>

For more information on the DC Motor and Stepper Click Boards™, please visit:

<https://www.mikroe.com/stepper-9-click>, <https://www.mikroe.com/stepper-20-click>

<https://www.mikroe.com/dc-motor-13-click>

<https://www.mikroe.com/dc-motor-23-click>.

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About Toshiba Electronics Europe

[Devices and Storage Corporation](#). TEE offers European consumers and businesses a wide variety of innovative hard disk drive (HDD) products plus semiconductor solutions for automotive, industrial, IoT, motion control, telecoms, networking, consumer and white goods applications. Next to HDDs, the company's broad portfolio encompasses power semiconductors and other discrete devices ranging from diodes to logic ICs, optical semiconductors as well as microcontrollers and application specific standard products (ASSPs) amongst others.

TEE has headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom providing marketing, sales and logistics services. The company president is Mr. Tomoaki Kumagai.

For more company information visit TEE's website at www.toshiba.semicon-storage.com.

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