



### Latest-Generation Stepper-Motor Controller from Toshiba Electronics Europe Saves Space and Ensures Cooler, Quieter Running

*On-chip current detection, low- $R_{DS(ON)}$  output stage and advanced mixed-decay mode minimize footprint and heat generation, boost accuracy and high-speed control*

**Düsseldorf, Germany, 09 May, 2017** – Toshiba Electronics Europe has begun sampling a new 40V/3.0A stepper-motor control IC that requires no external current-sense resistors, and hence enables more economical and compact drives in equipment such as printers, office machines, surveillance cameras, banking terminals, banknote identification machines, and home appliances. Further new features increase efficiency, reduce heat generation, and enhance accuracy at high speeds.

Toshiba's Advanced Current Detection System (ACDS), integrated in the new 5mm x 5mm TB67S508FTG stepper-motor controller, performs on-chip current sensing thereby saving component costs and about 66% of the board real-estate used by a typical 7mm x 7mm control IC with external resistors. ACDS also eliminates the effects of resistor-tolerance errors, ensuring greater accuracy (+/-5%) and uniformity.

In addition, the built-in power stage leverages the latest DMOS technology to boost energy efficiency, which aids space-saving design and eases thermal management by reducing

internal heat generation. The transistors of the output bridge have very low on-resistance ( $R_{DS(ON)}$ )<sup>[1]</sup> of  $0.45\Omega$  (typical, high-side + low-side).

Moreover, Toshiba's Advanced Dynamic Mixed Decay (ADMD) mode, which controls current more closely than conventional mixed-decay modes, ensures smooth and quiet movement over a wider speed range by maintaining accurate step control up to high speeds.

The TB67S508FTG for 2-phase bipolar stepper-motor applications supports full-, half- and quarter-step resolution modes, and is delivered in a space-saving QFN36 package optimised for high heat-radiation to allow superior reliability. All the usual protection features are built-in, including thermal shutdown, over current detection, low-power and under-voltage detection, and terminal-component open/short-circuit detection (OSCM).

Notes:

[1] Compared with the current product, TB62213AFTG (maximum output rating 40V/3A)

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**About Toshiba Electronics Europe**

[Toshiba Electronics Europe](#) (TEE) is the European electronic components business of [Toshiba Corporation](#). TEE offers a broad IC and discrete product line including high-end memory, microcontrollers, ASICs and ASSPs for automotive, multimedia, industrial, telecoms and networking applications. The company also has a wide range of power semiconductor solutions as well as storage products including HDDs, SSDs, SD Cards and USB sticks.

TEE was formed in 1973 in Neuss, Germany, providing design, manufacturing, marketing and sales and now has headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom. TEE employs approximately 300 people in Europe. Company president is Mr Akira Morinaga.

For more company information visit TEE's web site at [www.toshiba.semicon-storage.com](http://www.toshiba.semicon-storage.com).

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