Toshiba and MIKROE introduce motor driving board to streamline prototyping of automotive applications

SmartMCD TB9M001FTG enables precise control of two brushed DC motors

Düsseldorf, Germany, 19 January 2026 – Toshiba Electronics Europe GmbH ("Toshiba") has partnered with MIKROE to integrate its SmartMCD™ for dual brushed DC motors into the SmartMCD TB9M001FTG board. The board enables automotive system engineers to design the TB9M001FTG smart motor control driver for automotive applications, including electric sunroofs, wipers, powered windows, and adjustable seats, to streamline the prototyping phase.

With a focus on performance, flexibility and ease of integration, the AEC-Q100 (Grade 1) qualified SmartMCD device meets ASIL-A requirements. It includes robust safety features, such as built-in error detection for overcurrent (low-side driver and high-side driver), overvoltage, undervoltage, and thermal shutdown protection.

The device features a built-in microcontroller (MCU) with an Arm® Cortex®-M0 core. It also integrates 16kB of RAM and 192kB of Flash memory, with an additional 16kB of Data Flash – all with error-correcting code (ECC) for single-error correction and double-error detection (SEC/DED).

The SmartMCD device integrates four low-side relay drivers, enabling forward and reverse control of two brushed DC motors when using single-pole double-throw (SPDT) relays. It also includes two high-side drivers for supporting 5V and 12V loads to external components, a LIN-transceiver for in-vehicle communication, and a fully integrated power management system that generates all the required voltage levels from the car battery.

The SmartMCD TB9M001FTG board's compact design, measuring 130mm x 73mm, includes all the circuitry required for motor control and operational testing, including multiple configurable general-purpose input/output (GPIOs) with several connection

options, selectable by jumpers. An on-board debugger, which is compliant with the CMSIS-DAP on-board emulator standard, enables out-of-the-box operation, testing and debugging of the target device.

Additional information about the SmartMCD TB9M001FTG IC can be found on Toshiba's website: https://toshiba.semicon-storage.com/eu/semiconductor/product/automotive-devices/detail.TB9M001FTG.html

MIKROE SmartMCD TB9M001FTG Board: https://www.mikroe.com/smartmcd-tb9m001ftg-board

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About Toshiba Electronics Europe
Toshiba Electronics Europe GmbH (TEE) offers European consumers and businesses a wide variety of 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. In addition, TEE offers SCiB™ battery cells and modules with lithium titanium oxide (LTO) for heavy-duty applications.

TEE has its headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom providing marketing, sales and logistics services.

Visit Toshiba's websites at www.toshiba.semicon-storage.com and www.scib.jp/en for further company and product information.

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