



Toshiba introduces a new size-reduced MOSFET gate driver

First device in a series of six supports back-to-back connection of external N-channel MOSFETs

Düsseldorf, Germany, 17th February 2022 – Toshiba Electronics Europe GmbH (“Toshiba”) introduces a new MOSFET gate driver IC TCK421G that controls the gate voltage of external N-channel MOSFETs based upon the input voltage.

The MOSFET gate driver is suitable for configuring a power multiplexer or a load switch circuit equipped with [reverse-current blocking](#) by being combined with a back-to-back connection of external N-channel MOSFETs.

The TCK421G incorporates a charge pump circuit that supports a wide range of input voltages (V_{IN}) from 2.7 to 28.0V, providing a stable supply of 10V to the gate-source voltage of external MOSFETs thereby facilitating the switching of large currents. The typical input quiescent current in the ON state ($I_{Q(ON)}$) is as low as 140 μ A while the standby current in the OFF state ($I_{Q(OFF)}$) is just 0.5 μ A. In addition, the TCK421G contains an overvoltage and undervoltage lockout function. The gate drive voltage can be selected to suit the application.

Housed in the chip scale WCSP6G package, the device has a footprint of just 1.2mm x 0.8mm and a height of 0.35mm. This is one of the smallest packages in the industry and allows use in densely packed devices such as wearables and smartphones.

The TCK421G is the first product launched in a series that will eventually comprise six devices. Due to its high efficiency and small size, the new driver can be used in a wide range of applications including battery powered, consumer and industrial equipment.

Shipment of the TCK421G starts today.

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About Toshiba Electronics Europe

[Toshiba Electronics Europe GmbH](#) (TEE) is the European electronic components business of [Toshiba Electronic 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 web site at www.toshiba.semicon-storage.com.

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