



Toshiba releases N-channel MOSFET driver ICs

New ultra-small devices are ideal for rapid charging applications

Düsseldorf, Germany, 15th March 2018 – Toshiba Electronics Europe today announced the launch of two new N-channel MOSFET drivers suitable for rapid-charging and other high current applications.

The new TCK401G (active-high) and TCK402G (active-low) charge pump driver ICs are suitable for high current mobile charging applications when used in conjunction with low $R_{DS(on)}$ N-channel MOSFETs. The driver ICs support several built-in safety functions, including overvoltage protection, inrush current reduction and auto output discharge.

Operating from an input voltage in the range 2.7 to 28V DC, the devices draw just 121 μ A of quiescent current (I_Q). Switching times for the gate voltage (V_{GATE}) are 0.58ms (ON) and 16.6 μ s (OFF).

A high-efficiency power supply circuit can be realised by using one of the new drivers with one or two external N-channel MOSFETs that have a maximum voltage rating and on-

resistance suitable for the intended application. As an example, the combination of a TCK40xG driver IC and the low on-resistance SSM6K513NU MOSFET is ideal for mobile or consumer applications, as it makes it possible to build a 100W power supply with a very compact footprint.

Even with the high level of integration, the driver ICs are still housed in the small industry-leading WCSP6E package, measuring just 0.8mm × 1.2mm × 0.55mm.

Volume shipment of the new MOSFET driver ICs has started.

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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. The company's broad portfolio encompasses integrated wireless ICs, power semiconductors, microcontrollers, optical semiconductors, ASICs, ASSPs and discrete devices ranging from diodes to logic ICs.

Formed in 1973 in Neuss, Germany, TEE has headquarters in Düsseldorf, Germany, with branch offices in Germany, France, Italy, Spain, Sweden and the United Kingdom providing design, manufacturing, marketing and sales. Company president is Mr. Akira Morinaga.

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

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