



### Toshiba Releases New 100V N-Channel Power MOSFET for Automotive Applications

New device is the first to be produced in Toshiba's new U-MOS X-H series

Düsseldorf, Germany, 02<sup>th</sup> March 2020 – Toshiba Electronics Europe GmbH has released a new 100V N-channel power MOSFET suitable for automotive equipment applications such as load switches, switching power supplies and driving of motors.

The new XK1R9F10QB is the first available device in Toshiba's new U-MOS X-H series of MOSFETs with a trench structure, and is fabricated with the company's latest generation process. Encapsulated within a low-resistance TO-220SM(W) package, it delivers industry-leading levels of ON-resistance ( $R_{DS(on)}$ ) with a maximum value of 1.92mΩ at a  $V_{GS}$  of 10V. This represents an improvement / reduction of approximately 20% when compared to current devices such as the TK160F10N1L, thereby helping to reduce power

consumption and increasing efficiency in automotive applications. The XK1R9F10QB also exhibits reduced switching noise, due to the optimization of its capacitance characteristics, which helps to reduce EMI.

The new device can withstand a drain-source voltage ( $V_{DSS}$ ) of 100V and is rated for a continuous drain current ( $I_D$ ) of 160A, or 480A if pulsed ( $I_{DP}$ ). The device can be operated with a channel temperature of 175°C and has a channel-to-case thermal impedance ( $Z_{th(ch-c)}$ ) of less than 0.4°C/W, improving thermal performance.

The XK1R9F10QB is qualified to AEC-Q101 for automotive applications and a PSpice model is freely available to assist with rapid simulation.

Mass production shipments of the new device start today.

Follow the link below for more information on the new Toshiba MOSFET  
<https://toshiba.semicon-storage.com/eu/semiconductor/product/mosfets/12v-300v-mosfets/detail.XK1R9F10QB.html>

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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](#) (Toshiba). 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, ASSPs and discrete devices ranging from diodes to logic ICs.

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

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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