



Toshiba releases low capacitance TVS diodes suitable for ESD protection

Key use cases include high speed signal lines in industrial applications

Düsseldorf, Germany, 21st October 2019 – Toshiba Electronics Europe (“Toshiba”) announces the availability of two low capacitance TVS diodes (ESD protection diodes) that support high speed communication standards, such as Thunderbolt™ 3, HDMI® 2.1 and USB 3.1.

Data-intensive applications, including many industrial applications minimize transfer times for video data or other types of large files by using 10 Gbps or 48 Gbps high speed communication standards. With the increasing miniaturization of the controller ICs used in these high-speed communications, ESD tolerances are decreasing, and it is necessary to enhance measures to counter ESD and surges from mating / un-mating connectors. Insufficient ESD protection can cause significant issues including communication errors and data corruption.

In addition, parts connected to high speed communication lines have a significant effect on data signals. Passive parts on printed circuit boards, such as capacitors and resistors, can distort signal waveforms as can parasitic effects within the printed circuit board. The new TVS diodes reduce these issues as they have a lower capacitance that is suitable for

high speed communications. Through optimization of the manufacturing process, the new products achieve a typical total capacitance (C_t) of 0.15pF, which is approximately 25% lower than current products, ensuring stability in high speed communication applications.

The new DF2B5M4ASL supports maximum working peak reverse voltage of 3.6V and DF2B6M4ASL supports 5.5V. Both devices offer a high electrostatic voltage rating (VESD) – the DF2B5M4ASL achieves ± 16 kV while the DF2B6M4ASL offers ± 15 kV. Both devices support bidirectional operation and they are housed in a tiny SL2 package measuring just 0.62 mm x 0.32 mm x 0.30 mm.

Follow the link below for more information on Toshiba's TVS Diodes (ESD Protection Diodes) line-up.

<https://toshiba.semicon-storage.com/eu/product/diode/esd-protection-diode.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](#). 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.

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.

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