Toshiba releases high-speed 2:1 multiplexer / 1:2 demultiplexer switches for industrial applications

Deliver high-speed signal integrity with support for PCIe 6.0 and USB4 Version 2.0 in equipment operating up to +125°C

Düsseldorf, Germany, 9th July 2026 – Toshiba Electronics Europe GmbH ("Toshiba") introduces TDS5B212MX and TDS5C212MX, multiplexer (MUX) / demultiplexer (DEMUX) switches for high-speed differential signals. Suitable for servers, industrial testers, robots, and related applications, the new products support high-speed interfaces such as PCIe® 6.0 and USB4® Version 2.0.

The devices use Toshiba's proprietary SOI process (TarfSOI™) to achieve a typical -3dB differential bandwidth of 29GHz for TDS5B212MX and 34GHz for TDS5C212MX. These wide bandwidths suppress signal distortion and enhance reliability in high-speed data transmission. In addition, both products feature optimised pin layouts for enhanced high-frequency performance. In particular, the TDS5C212MX minimises signal path length to reduce reflections and transmission losses, further improving high-speed signal integrity.

The devices can be used as 2-input/1-output Mux switches or 1-input/2-output De-Mux switches supporting data rates of up to 64GT/s for high-speed differential interfaces, including PCIe® 6.0, USB4® Version 2.0, CXL™ 3.x, Thunderbolt™ 5, and DisplayPort™ 2.0. Both products are also backward compatible with earlier interface standards. The devices enable flexible sharing of a single high-speed interface among multiple devices and dynamic signal path switching according to system requirements.

Housed in the XQFN16 package (2.4mm ×1.6mm x 0.4mm), the products are suitable for high-density designs such as smartphones and wearables. They also operate over a temperature range from -40°C to +125°C, making them suitable for space-constrained industrial applications.

Toshiba will continue to contribute to next-generation systems by developing high-performance, highly reliable analogue switch products that support the evolution of high-speed interfaces.

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Note to editor:
PCIe® is a registered trademark of PCI-SIG;
USB4® is a registered trademark of USB Implementers Forum, Inc.;
CXL™ is a trademark of Compute Express Link Consortium, Inc.;
Thunderbolt™ is a trademark of Intel Corporation;
DisplayPort™ is a trademark of VESA.

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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