4-bit dual-supply bus transceivers from Toshiba support low voltage level-shifting in systems featuring widely-used communications protocols

Flexible options for managing UART or SPI interfaces using signal levels down to 0.8V

Düsseldorf, Germany, 3rd April 2025 – Toshiba Electronics Europe GmbH ("Toshiba") has launched three new dual-supply bus transceivers that can be used for level translation in electronic industrial, consumer, and enterprise systems featuring the widely used communications interfaces like UART and SPI. The 74AVC series of bus transceivers support level-up and level-down voltage translation from either of their dual power supplies in bidirectional communication systems using signal voltages between 0.8V and 3.6V.

To support direct level-shifting of UART data, the 74AVC4T245FT includes four bidirectional level shift circuits, which allow independent control of the signal direction every 2 bits. The 74AVCH4T245FT also delivers this functionality but additionally includes a built-in bus-hold function that allows it to retain its previous output even when the input is in a high-impedance state. The 74AVC4T345FT offers 3-bit and 1-bit communications control, making it suitable for use with SPI interfaces.

The output stage of these transceivers can be placed in a high impedance state by either connecting one of the power supplies or the OE terminal input to GND, while signal direction is determined using the DIR pin.

To simplify power management, particularly in legacy system designs, these devices have been designed without any restrictions on the on/off sequencing of power supply terminals V_{CCA} and V_{CCB}. Furthermore, low static current consumption (I_{CCA}, I_{CCB} = 8µA (max.)) helps to save power.

The transceivers, which are housed in a TSSOP16B package, can reliably operate in temperatures ranging from -40°C to 125°C.

Read more about the new series of dual-supply bus transceivers on Toshiba's website:
https://toshiba.semicon-storage.com/eu/semiconductor/product/general-purpose-logic-ics/detail.74AVC4T245FT.html

https://toshiba.semicon-storage.com/eu/semiconductor/product/general-purpose-logic-ics/detail.74AVCH4T245FT.html

https://toshiba.semicon-storage.com/eu/semiconductor/product/general-purpose-logic-ics/detail.74AVC4T345FT.html

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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 also offers Toshiba's SCiB™ battery cells and modules with lithium titanium oxide (LTO) for heavy-duty applications and Silicon Nitride (SiN) ceramic substrates used in power semiconductor modules, inverters, and converters for their heat dissipation characteristics and strength.

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, www.scib.jp/en and www.toshiba-tmat.co.jp/en/ for further company and product information.

Contact details for publication:
Toshiba Electronics Europe GmbH, Hansaallee 181, D-40549 Düsseldorf, Germany
Tel: +49 (0) 211 5296 0
Web: www.toshiba.semicon-storage.com/eu/company/news.html

Contact details for editorial enquiries:
Michelle Shrimpton, Toshiba Electronics Europe GmbH
Tel: +44 (0)7464 493526
E-mail: MShrimpton@teu.toshiba.de

Issued by:
Birgit Schöniger, Publitek
Tel: +49 (0)172 617 8431
Web: www.publitek.com
E-mail: birgit.schoeniger@publitek.com

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