Toshiba develops automotive CXPI communication driver IC

Advanced standard reduces wiring within vehicle harnesses – saving cost, weight and space

Düsseldorf, Germany, 16th March 2023 – Toshiba Electronics Europe GmbH ("Toshiba") today announced the development of a new automotive clock extension peripheral interface (CXPI) communication driver / receiver IC for applications within automotive body systems. Typical applications will include steering switches, instrument cluster switches, light switches, door locks, external mirrors and more.

Due to their sophistication, automotive body system applications now require high-speed operation, operating significantly faster than earlier LIN (Local Interconnect Network) technology.

Devices based upon the CXPI standard – ISO 20794-4 - deliver 20 kbps multiplex communication for network interfaces within automotive body system as well as for zone ECUs. This allows for reduction of wiring within vehicle harnesses, saving cost, space and weight.

The new development will support the physical layer interface for automotive communication protocols that comply with the CXPI standard. Ideal for battery-based systems, the new design will have a built-in sleep mode that reduces current consumption (I_{BAT_SLP}) to a typical value of just 5µA during standby. A number of fault detection functions will be offered, including overtemperature and low voltage detection.

Operating temperature range will be -40ºC to 125ºC to ensure suitability for the harsh automotive environment. Additionally, the design is undergoing conformance testing to AEC-Q100 (Grade1), to demonstrate suitability for demanding automotive body

applications. For use in space-constrained automotive applications, the product will be housed in a P-SOP8-0405-1.27-002 package with a footprint of just 6.0mm x 4.9mm.

Samples of the new device, known as "TB9032FNG", will be available via Toshiba representatives for evaluation. Mass production is expected in early 2024.

Further information can be found on the device datasheet here:
https://toshiba.semicon-storage.com/info/TB9032FNG_Web_Datasheet_en_20230227.pdf?did=151469&prodName=TB9032FNG

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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. 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.

TEE has headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom providing marketing, sales and logistics services. The company president is Mr. Tomoaki Kumagai.

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

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