Toshiba now sampling automotive CXPI responder interface IC with built-in hardware logic

Hardware logic eliminates the requirement for software development, resulting in a faster time-to-market

Düsseldorf, Germany, 03rd September 2024 – Toshiba Electronics Europe GmbH ("Toshiba") will start sampling the TB9033FTG, a Clock Extension Peripheral Interface (CXPI) responder interface IC with built-in hardware logic. The hardware logic can control the data communication by the CXPI protocol and General Purpose Input/Output (GPIO), eliminating the need for dedicated software development thereby shortening development times.

The new product enables multiplexing of automotive communications and reduces the number of wire harnesses used in body control system applications, contributing to the reduction of vehicle weight. Compared to the Local Interconnect Network (LIN) protocol, the high-speed response of the CXPI responder interface device makes it suitable for applications including steering wheel switches, meter cluster switches, light switches, and door locks and mirrors.

The device has 16 GPIO pins – six of them can be switched to one circuit of 10bit AD converter input, and four pins can be switched to four circuits of 8bit PWM (Pulse Width Modulation) output. The device is also equipped with an input monitoring function during sleep mode, a switch matrix (max. 4x4) input function, and an output function in the event of communication disruption.

This device's standby current consumption is only 10µA, indicating that it draws minimal power while in sleep mode. Low electromagnetic interference (EMI) and high electromagnetic susceptibility (EMS), mean less noise is generated, which eases system design. In addition, the device's high electrostatic discharge (ESD) characteristic makes it highly resistant to static electricity.

The TB9033FTG includes fault detection circuits for overtemperature, overvoltage, and low voltage. In addition, the device can predict fault conditions and automatically alert the commander node, contributing to improved fault detection performance. The operating temperature range of the device is from -40 to 125°C, and it will conform to the AEC-Q100 standard.

Toshiba is also developing an automotive CXPI communication driver receiver IC that can be switched between the commander and responder node via an external pin.

To learn more about TB9033FTG, visit Toshiba's website: https://toshiba.semicon-storage.com/eu/semiconductor/product/automotive-devices/detail.TB9033FTG.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.

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September 2024 **Ref. 7574(A)E**