



Toshiba releases interface bridge devices for automotive infotainment applications

New range comprises four devices for HDMI, camera and display applications

Düsseldorf, Germany, 4th June 2018 – Toshiba Electronics Europe ("Toshiba") announces a new range of video interface bridge devices intended for modern automotive In-Vehicle Infotainment (IVI) applications.

Increasingly, Systems-on-Chip (SoCs) from smartphones and tablets have been used in automotive applications as IVI systems became more sophisticated, requiring more functionality and greater performance. However, due to differing connectivity standards on devices such as displays, existing SoCs often lack of necessary interfaces required for automotive networks.

Toshiba's new range of video interface bridge devices provide HDMI to MIPI[®] CSI-2 (TC9590), MIPI[®] CSI-2 to/from parallel (TC9591) and MIPI[®] DSI to LVDS (TC9592/3) connectivity. The devices are offered in 0.65mm pitch, VFBGA packages between 5 x 5 mm and 7 x 7mm, with the exception of the TC9590 which is housed in an LFBGA64, 0.8mm pitch 7 x 7mm package.

The TC9592, with its single link, 5 pairs/link LVDS output is suitable for connecting SoCs to a UXGA 1600 x 1200 24-bit display. The TC9593 provides a dual link, 5 pairs/link LVDS output, making it ideal for displays up to WUXGA 1920 x 1200 in size.

The TC9591 can be configured to convert 24-bit parallel data at 154 MHz to 4-lane MIPI® CSI-2, or MIPI® CSI-2 to 24-bit parallel data at 100 MHz. The TC9590 supports HDMI 1.4a at its input and 4-lane MIPI® CSI-2 at its output.

All of the devices operate from -40°C to +85°C, although the TC9591XBG extends the upper limit to +105°C.

Toshiba has a long history in developing MIPI®-based interface bridge chips for consumer applications and have drawn on their experience in this area while developing the new automotive IVI range.

Sample shipments of the new devices start in June 2018.

Notes:

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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. Akira Morinaga.

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

Contact details for publication:

Toshiba Electronics Europe GmbH, Hansaallee 181, D-40549 Düsseldorf, Germany

Tel: +49 (0) 211 5296 0 Fax: +49 (0) 211 5296 79197

Web: www.toshiba.semicon-storage.com/eu/company/news.html

E-mail: discrete-ic@toshiba-components.com

Contact details for editorial enquiries:

Michelle Shrimpton, Toshiba Electronics Europe GmbH

Tel: +44 (0)193 282 2832

E-mail: MShrimpton@teu.toshiba.de

Issued by:

Birgit Schöniger, Publitek

Tel: +44 (0) 20 8429 6554

Web: www.publitek.com

E-mail: birgit.schoeniger@publitek.com

June 2018

Ref. 7137/A