



Toshiba releases automotive 40V ultra low Rds(on) MOSFETs in 5mm x 6mm packages with double-sided cooling

New packages improve thermal performance

Düsseldorf, Germany, 4th September 2018 – Toshiba Electronics Europe announces the launch of “TPWR7940PB” and “TPW1R104PB”, 40V N-channel power MOSFETs using DSOP Advance (WF) packages with double-sided cooling capability. The TPWR7940PB is a 40V max 0.79mΩ MOSFET in DSOP Advance(WF)L package, and the TPW1R104PB is a 40V max 1.14mΩ MOSFET in DSOP Advance(WF)M package. Both devices are based upon the latest trench structure U-MOSIX-H process and are AEC-Q101 qualified. They target automotive applications such as electric power steering (EPS), load switches and electric pumps.

Both DSOP Advance (WF)M and DSOP Advance (WF)L are 5mm x 6mm packages with 8 pins. DSOP Advance (WF)M and DSOP Advance (WF)L differ in their exposed surface area of the top metal plate. The top exposed area is about 8mm² in DSOP Advance(WF)M and about 12mm² in DSOP Advance (WF)L. Measured in Toshiba’s test environment, the maximum channel-to-top-plate thermal impedance is 1.5K/W for the TPW1R104PB and 0.93K/W for TPWR7940PB. Their excellent thermal performance is achieved by attaching the top exposed area to a heatsink (such as a metal frame) via an insulating layer.

The DSOP Advance (WF)M and DSOP Advance (WF)L packages are footprint-compatible with an SOP Advance (WF) package that has no exposed top metal area. The DSOP Advance (WF)M and DSOP Advance (WF)L packages employ a wettable flank terminal structure that enables AOI(Automated Optical Inspection) of solder joints on PCBs. AOI is especially important in automotive applications where verification of soldering quality is required.

The mass production of both TPWR7940PB and TPW1R104PB started in August 2018.

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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. Tomoaki Kumagai.

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

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