



Toshiba Launches Improved 1350 V IGBT device for domestic appliance applications

Device offers design flexibility and reduced losses in resonance-based power applications

Düsseldorf, Germany, 29th April 2020 – Toshiba Electronics Europe GmbH (“Toshiba”) has launched a new discrete 1350 V insulated gate bipolar transistor (IGBT) for use in resonance-based home appliance applications that use induction heating, including tabletop cookers, rice cookers and microwave ovens.

The new GT20N135SRA IGBT features a collector-emitter saturation voltage ($V_{CE(sat)}$) of 1.60 V (typ.) and a diode forward voltage (V_F) of 1.75 V, which represent reductions of around 10% and 21% respectively when compared with conventional products. As both the IGBT and diode have improved their conduction loss characteristics at high temperature ($T_C=100^\circ\text{C}$), the device will deliver more efficient operation.

Additionally, an improved maximum junction-to-case thermal resistance ($R_{th(j-c)}$) of 0.48°C/W allows for easier thermal design with less heatsinking as it represents an approximate 26% reduction from existing products.

The new GT20N135SRA can suppress the short circuit current through a resonance capacitor that is generated when the device is started. The new product’s peak short

circuit current is 129 A, almost a third lower than existing products. The Safe Operating Area (SOA) is widened, meaning that the IGBT is less likely to break down, thereby giving designers greater flexibility.

Housed in an industry standard TO-247 package, the device is able to handle a maximum collector current (I_C) of 40 A, reducing with derating to 20 A at 100°C.

Shipments of the new IGBT have started. Follow the link below for more information on Toshiba's IGBT product line:

<https://toshiba.semicon-storage.com/eu/semiconductor/product/bipolar-transistors-igbt/detail.GT20N135SRA.html>

###

About Toshiba Electronics Europe

[Toshiba Electronics Europe GmbH](#) (TEE) is the European electronic components business of [Toshiba Electronic Devices and Storage Corporation](#) (Toshiba). 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, 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)1582 390 980

Web: www.publitek.com

E-mail: birgit.schoeniger@publitek.com

April 2020

Ref. 7272A