



Toshiba introduces additional -60V P-channel MOSFETs

New devices will reduce power consumption in automotive applications

Düsseldorf, Germany, 05th February 2024 – Toshiba Electronics Europe GmbH (“Toshiba”) announces the availability of two more -60V P-channel MOSFETs based upon their U-MOS VI process. This will expand their range of devices that are suitable for use in automotive applications such as load switches, semiconductor relays and motor drives.

The new XPH8R316MC and XPH13016MC are already qualified to meet AEC-Q101 - the automotive reliability standard. As part of this, they are housed in an SOP Advance(WF) package - a surface mount style with a wettable flank terminal structure. This facilitates automated optical inspection (AOI) of the solder joints – key to reliability in harsh automotive environments. An additional advantage is the copper connectivity within the package that reduces package resistance, improves efficiency and reduces heat build-up.

The XPH8R316MC is rated for -90A continuous drain current (I_D) and the XPH13016MC is rated for an I_D of -60A. The pulsed drain current (I_{DP}) is double these values, -180A and -120A, respectively. Both devices are rated for a drain-source voltage (V_{DSS}) of -60V and are capable of operating at channel temperatures (T_{ch}) up to 175°C.

The maximum drain-source on-resistance ($R_{DS(ON)}$) of the XPH8R316MC is 8.3mΩ, which is approximately 25% lower than Toshiba’s existing TPCA8123. For the XPH13016MC, the value is 12.9mΩ, approximately 49% lower than the TPCA8125. These highly reduced values of $R_{DS(ON)}$ contribute significantly to reducing power consumption within automotive applications.

The new devices are in mass production.

Find out more about new -60V P-channel MOSFETs at:

<https://toshiba.semicon-storage.com/eu/semiconductor/product/mosfets/detail.XPH8R316MC.html>
<https://toshiba.semicon-storage.com/eu/semiconductor/product/mosfets/detail.XPH13016MC.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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