



Toshiba releases new photorelay with comprehensive protection features

New device achieves greater reliability in electrically noisy environments

Düsseldorf, Germany, 04th January 2024 – Toshiba Electronics Europe GmbH (“Toshiba”) has just released the first >1.4A-rated DIP4 package photorelay that has an OFF-state output terminal voltage of 80V, over temperature and over voltage protection functions.

Photorelays integrate the functions of a photocoupler with an output MOSFET switch and are often used to replace mechanical relays. As solid-state devices there is no contact wear, they are silent in operation, small in size and require very little power to operate.

These devices are used in a wide variety of applications including building management, sensors, I/O interfaces, battery management systems and anywhere a mechanical relay can be used.

Toshiba’s new TLP241BP photorelay is configured as 1-Form-A / normally open (NO) and is capable of a continuous on-state current (I_{ON}) of 1.4A and 4.2A (I_{ONP}) for pulsed operation. It offers an input-output isolation voltage (BVs) of 5,000 Vrms and is capable of operating at ambient temperatures between -40°C and +110°C.

Inbuilt over temperature protection function inhibits the output MOSFET to protect against over current situations. Also, an active clamping MOSFET protects the device when an overvoltage exceeding the blocking voltage rating is applied. The inclusion of these protection functions makes the device suitable for use in environments with high levels of electrical noise such as industrial applications or air conditioning systems.

With comprehensive inbuilt protection and solid-state operation, the TLP241BP significantly contributes to the reliability of equipment in electrically harsh environments.

The TLP241BP holds UL and eUL recognition, along with VDE approval. The part is fully available and in mass production.

Find out more on the Toshiba website: <https://toshiba.semicon-storage.com/eu/semiconductor/product/isolators-solid-state-relays/photorelay-mosfet-output/detail.TLP241BP.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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