



Toshiba announces new low power photorelays with extended operating temperature

New devices are suitable for many applications including smart meters and security

Düsseldorf, Germany, 01st February 2022 – Toshiba Electronics Europe GmbH (“Toshiba”) has launched two new normally open (NO) 1-FORM-A photorelay products TLP223GA and TLP223J that consist of a MOSFET optically coupled to an infrared LED.

The new devices are suited to a wide range of applications including use in smart meters, passive infrared (PIR) sensors in security systems and building automation applications. They are also intended for use in industrial applications such as programmable logic controllers (PLCs), I/O interfaces and many types of sensors. They can be utilized where it is desirable to replace a mechanical relay with a solid-state device.

Both photorelays feature an LED developed by Toshiba with high luminous efficiency, ensuring that the trigger LED current does not exceed 2mA. This reduces energy consumption by approximately 33% when compared to existing Toshiba products such as the TLP240x series. Typical ON-state resistance is 17Ω (TLP223GA) and 30Ω (TLP223J).

The new TLP223GA and TLP223J feature an OFF-state output terminal voltage rating of 400V and 600V respectively. Continuous ON-state current (I_{ON}) is 120mA and 90mA and pulsed ON-state current (I_{ONP}) is triple these values.

Both devices have improved switching characteristics with a 50% (approx.) improvement in turn-on time (t_{ON}) to 1ms (max.) for the TLP223GA, and 75% and 0.5ms (max.) for the TLP223J compared with current products TLP240GA and TLP240J.

The operating temperature is covering the range from -40°C to $+110^{\circ}\text{C}$ making them suitable for use in equipment installed outdoors. The isolation voltage of 5000Vrms and creepage / clearance distances up to 8.0mm allows them to be used in equipment requiring reinforced isolation.

Both devices are housed in a 4-pin DIP package with leaded and surface-mount options available.

Shipments of the new devices has started.

To access the datasheets for these two devices, please visit:

TLP223GA - <https://toshiba.semicon-storage.com/eu/semiconductor/product/isolators-solid-state-relays/photorelay-mosfet-output/detail.TLP223GA.html>

TLP223J - <https://toshiba.semicon-storage.com/eu/semiconductor/product/isolators-solid-state-relays/photorelay-mosfet-output/detail.TLP223J.html>

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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. 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.

TEE has headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom providing marketing, sales and logistics services. The company president is Mr. Tomoaki Kumagai.

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

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