



Toshiba releases 60V and 100V N-channel power MOSFETs in three new package options to improve efficiency of industrial equipment power lines

New lineup uses versatile SOT-23F, heat-dissipating TSOP6F, and space-saving UDFN6B packaging to address rising demand for 48V and 24V power systems

Düsseldorf, Germany, 18th June 2026 – Toshiba Electronics Europe GmbH (“Toshiba”) has expanded its portfolio of N-channel power MOSFETs with the launch of nine new parts in three types of small, high heat dissipation packages. The new lineup comprises three 100V products for 48V power lines in industrial equipment and six 60V products for 24V systems.

These releases are a direct response to current market trends, in which industrial equipment power lines are shifting from conventional 12V and 24V systems to 48V systems to reduce power consumption. As inrush current and surges on 48V lines can cause the voltage to exceed 50V to 80V, 100V-rated MOSFETs are required for reliable operation. Additionally, as power supply voltages increase, higher efficiency, lower losses, and smaller sizes are needed. In response to these market trends, Toshiba has developed products for 48V lines and the current mainstream 24V lines.

To address the diverse requirements of modern industrial equipment, these products are available in three distinct package types. Designers prioritising versatility and ease of implementation can use the SOT-23F package measuring 2.9mm x 2.4mm, which offers a power dissipation of 1W. For applications requiring higher power dissipation and excellent heat dissipation, the TSOP6F package is available at 1.5W, which measures 2.9mm x 2.8mm. For designs where miniaturisation is critical, the UDFN6B package provides an ultra-small, space-saving solution with a typical footprint of 2.0mm x 2.0mm and a power dissipation rating of 1.25W.

Despite their compact size, all three package types maintain low on-resistance ($R_{DS(ON)}$), which significantly reduces power consumption in the equipment. This combination of

high efficiency, low loss, and small size enables a range of applications, from industrial programmable logic controllers (PLCs), inverters/servo motors, and servers to consumer home appliances such as LED lights, water heaters, water purifiers, and robotic vacuum cleaners.

For 48V power lines, Toshiba offers the 100V-rated N-channel MOSFETs with an $R_{DS(ON)}$ of 198m Ω :

[SSM3K387R](#) [SOT-23F]

[SSM6K387R](#) [TSOP6F]

[SSM6K387NU](#) [UDFN6B]

For 24V power lines, Toshiba offers the 60V-rated N-channel MOSFETs with an $R_{DS(ON)}$ of 99m Ω :

[SSM3K388R](#) [SOT-23F]

[SSM6K388R](#) [TSOP6F]

[SSM6K388NU](#) [UDFN6B]

For 24V power lines, Toshiba offers the 60V-rated N-channel MOSFETs with an $R_{DS(ON)}$ of 200m Ω :

[SSM3K389R](#) [SOT-23F]

[SSM6K389R](#) [TSOP6F]

[SSM6K389NU](#) [UDFN6B]

Toshiba continues to expand its N-channel MOSFET lineup to meet the evolving needs for high-efficiency, miniaturised power solutions in the industrial sector.

###

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 offers SCiB™ battery cells and modules with lithium titanium oxide (LTO) for heavy-duty applications.

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 and www.scib.jp/en for further company and product information.

Contact details for publication:

Toshiba Electronics Europe GmbH, Hansaallee 181, D-40549 Düsseldorf, Germany

Tel: +49 (0) 211 5296 0

Web: www.toshiba.semicon-storage.com/eu/company/news.html

Contact details for editorial enquiries:

Michelle Shrimpton, Toshiba Electronics Europe GmbH

Tel: +44 (0)7464 493526

E-mail: MShrimpton@teu.toshiba.de

Issued by:

Birgit Schöniger, Pretzl Group Ltd.

Tel: +49 (0) 172 617 8431

Web: www.pretzl.com

E-mail: birgit.schoeniger@pretzl.com

June 2026

Ref. 7669(A)E