

Toshiba launches small 80V/6A eFuse IC with integrated 48V power line protection for industrial and consumer equipment

Small package reduces PCB footprint, and comprehensive protection functions improve circuit safety

Düsseldorf, Germany, 26th November 2026 – Toshiba Electronics Europe GmbH ("Toshiba") has added an 80V-rated electronic fuse (eFuse IC) to its lineup built-in power line protection functions for systems operating up to 54V. The TCKE1401NM is housed in a small VQFN24D package, measuring 4.0mm x 4.0mm x 0.9mm, reducing PCB area needed for industrial equipment, such as servers, network equipment, factory automation (FA) equipment, robots, and multifunction printers, as well as consumer equipment, such as power tools and home appliances.

In recent years, the adoption of 48V power systems in these applications has been advancing, driven by the demand for higher output power and improved efficiency. The new eFuse IC protects downstream circuits from abnormal current and voltage, and other fault conditions.

In addition to the short-circuit protection provided by conventional physical fuses, the new product integrates overcurrent protection, overvoltage protection, reverse current blocking, input reverse polarity protection, and thermal shutdown, enabling more functional and compact power line protection circuits.

The product also features a FLAG function that notifies external circuits of abnormal conditions, a power-good function that indicates the status of the output voltage, and an output current monitor function. The recovery method from abnormal conditions can be switched between two operating modes: auto-retry, in which the eFuse IC automatically recovers, and latch-off, in which recovery is triggered by an external signal.

Supporting a wide operating voltage range from 4.7V to 75V, the new eFuse can be used for power line protection in 24V, 48V, and 54V systems. In addition, the low On-resistance

(R_{ON}) of 44.5mΩ (typ.) helps improve equipment efficiency by reducing power loss during operation.

Toshiba will continue to develop eFuse ICs that enhance safety and reliability in power line protection and expand its product lineup to meet a wide range of needs.

To find out more, please download the datasheet here: https://toshiba.semicon-storage.com/eu/semiconductor/product/power-management-ics/efuse-ics/detail.TCKE1401NM.html

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About Toshiba Electronics Europe
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TEE is headquartered in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom providing marketing, sales and logistics services. The company also operates the European Analytical Research and Planning Office, the Regenerative Innovation Centre and the New Business Hub, which identifies, incubates and commercialises new business opportunities across Europe.

For further company and product information visit Toshiba's websites at www.toshiba.semicon-storage.com, www.scib.jp/en, www.global.toshiba/ww/products-solutions/security-automation.html and www.toshiba.eu/regenerative-innovation-centre.

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

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