



Toshiba introduces compact eFuse ICs for 1.8V power-line protection

TCKE5 Series operates from 1.7V to 5.5V, supporting protection of 1.8V, 3.3V and 5V power lines in consumer electronics and computing devices

Düsseldorf, Germany, 22nd October 2026 – Toshiba Electronics Europe GmbH (“Toshiba”) announces the TCKE5 Series of electronic fuse ICs (eFuses), extending its power-line protection range to support 1.8V supplies in space-constrained electronic equipment. Applications include SD memory cards, USB and HDMI® devices, laptop PCs and gaming consoles. The four devices combine overcurrent and short-circuit protection in a compact package.

As electronic devices get smaller and use lower supply voltages, designers need protection functions suited to these low-voltage power lines. Operating over an input voltage range of 1.7V to 5.5V, the TCKE5 Series supports 1.8V, 3.3V and 5V supplies.

An external resistor sets the overcurrent detection threshold, allowing designers to match protection to the requirements of the downstream circuit. A mask time of 2.4ms (typ.) allows brief current peaks to pass without triggering overcurrent shutdown; if the overcurrent persists beyond this period, the IC switches off its output. A separate short-circuit protection function responds to higher fault currents.

The series comprises the TCKE501UA, TCKE501UL, TCKE502UA and TCKE502UL. The UA variants provide automatic retry following a fault, while the UL variants latch off and require an external signal to restart. Designers can choose the recovery behaviour that suits their system.

Two slew-rate options provide different output-voltage rise times to accommodate power-sequencing requirements. Slew-rate control also limits the current drawn to charge the output capacitor at switch-on.

All four devices support a DC output current of up to 1.0A and are housed in the SOT-353F (UFV) package, measuring just 2.0mm × 2.1mm × 0.7mm (typ.).

For operation at input voltages of 5V to 5.5V, designers should follow the datasheet guidance on output capacitance or an external Schottky barrier diode to address voltage transients during short-circuit protection and verify operation in the intended system. Shipments start today.

More information is available on Toshiba's website:

TCKE501UA <https://toshiba.semicon-storage.com/eu/semiconductor/product/power-management-ics/efuse-ics/detail.TCKE501UA.html>

TCKE501UL <https://toshiba.semicon-storage.com/eu/semiconductor/product/power-management-ics/efuse-ics/detail.TCKE501UL.html>

TCKE502UA <https://toshiba.semicon-storage.com/eu/semiconductor/product/power-management-ics/efuse-ics/detail.TCKE502UA.html>

TCKE502UL <https://toshiba.semicon-storage.com/eu/semiconductor/product/power-management-ics/efuse-ics/detail.TCKE502UL.html>

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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.com/products-solutions/security-automation.html and www.toshiba.eu/regenerative-innovation-centre.

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