

 Press Information

## Power Capacitors

# TDK presents DC-link capacitors with ultra-low inductance for SiC-based power electronics

June 3, 2026

TDK Corporation (TSE:6762) presents the B25696H\* series of MKP DC high-frequency (HF) film capacitors, a reliable, high-performance DC link capacitor platform for next-generation SiC-based power electronics. With capacitance values from 47  $\mu\text{F}$  to 1280  $\mu\text{F}$  and rated DC voltages from 900 V to 2000 V, the components provide ultra-low self-inductance and low ESR to meet the demands of modern high-switching-frequency topologies. Typical applications for the B25696H are energy storage systems (ESS), solid-state transformers (SST), renewable energy inverters, traction drives, and industrial motor drives.

A key differentiator of the B25696H series is its unique internal busbar configuration, which ensures homogeneous current distribution between the capacitor windings. This design results in self-inductance values as low as 30 nH and ESR values down to 0.8 m $\Omega$  at 10 kHz, with excellent ESR stability up to 100 kHz. By minimizing parasitic inductance and resistive losses, the series reduces voltage spikes and electrical stress on SiC power devices, which enhances thermal margins and overall system reliability.

The cylindrical capacitors feature metallized polypropylene (MKP) dielectric in an aluminum case with a resin top. They are available in two diameters (85 mm and 100 mm) with screw female (M6) terminals and a threaded mounting bolt (M12). The series operates within a temperature range of -40  $^{\circ}\text{C}$  to +85  $^{\circ}\text{C}$  (hotspot) and offers a lifetime expectancy of 100,000 hours at +75  $^{\circ}\text{C}$  hotspot temperature and respective rated voltage, extendable to up to 200,000 hours with voltage and temperature derating. High ripple current capability of up to 91 A (at +60  $^{\circ}\text{C}$  ambient temperature, 10 kHz) supports high-power-density converter designs.

To support system-level optimization, TDK provides its free online [CapThermal](#) tool, allowing engineers to simulate thermal behavior and accurately estimate lifetime under application-specific conditions. This enables faster design cycles and more precise component selection for high-performance SiC-based power converters.

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### Main applications

DC link for

- renewable energy converters (solar, wind)
- traction applications (inverters for trains, subways, and tramways)
- industrial motor drive
- solid-state transformers (SST)
- energy storage systems (ESS)

**Main features and benefits**

- Ultra-low self-inductance (ESL), optimized for SiC switching topologies
- Low ESR over frequency
- Homogeneous current distribution through optimized internal busbar
- High ripple current capability
- Self-healing properties
- Lifetime expectancy up to 200,000 hours (with derating)

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**About TDK Corporation**

TDK Corporation (TSE:6762) is a global technology company and innovation leader in the electronics industry, based in Tokyo, Japan. With the tagline “In Everything, Better” TDK aims to realize a better future across all aspects of life, industry, and society. For over 90 years, TDK has shaped the world from within; from the pioneering ferrite cores to cassette tapes that defined an era, to powering the digital age with advanced components, sensors, and batteries, leading the way towards a more sustainable future. United by TDK Venture Spirit, a start-up mentality built on visions, courage and mutual trust, TDK’s passionate team members around the globe pursue better—for ourselves, customers, partners, and the world. Today, the state-of-the-art technologies of TDK are in everything, from industrial applications, energy systems, electric vehicles, to smartphones and gaming, at the core of modern life. TDK’s comprehensive, innovative-driven portfolio includes cutting-edge passive components, sensors and sensor systems, power supplies, lithium-ion and solid-state batteries, magnetic heads, AI and enterprise software solutions, and more—featuring numerous market-leading products. These are marketed under the product brands TDK, InvenSense, Micronas, Tronics, TDK-Lambda, TDK SenseEI, and ATL. Positioning the AI ecosystem as a key strategic area, TDK leverages its global network across the automotive, information and communication technology, and industrial equipment sectors to expand its business in a wide range of fields. In fiscal 2026, TDK posted total sales of USD 16.6 billion and employed about 107,000 people worldwide.

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