

 Press Information

Aluminum electrolytic capacitors **TDK introduces vibration-resistant hybrid polymer electrolytic capacitors for automotive and industrial applications**

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TDK Corporation (TSE:6762) expands its B409x series of SMD hybrid polymer aluminum electrolytic capacitors with a design that can withstand mechanical vibrations of up to 30 *g* (MIL-STD-202, Method 204). This is achieved by four posts that come out of the base plate of the component and stabilize the can in the event of mechanical shocks and vibrations. The design is offered with part number suffix 100 (standard types: 000), and these components are generally used in demanding automotive and industrial applications.

The surface-mount components are available in different voltage ratings between 25 V and 80 V, and capacitance values range from 56 μF to 1100 μF . Their diameter is 10 mm, and their height ranges from 10.2 mm to 16.8 mm, providing a temperature range of -55 °C to +105 °C (B40950) and up to +150 °C (B40910). Because of the polymer, the B409x series offers a low ESR of 10 m Ω to 33 m Ω and high ripple current capabilities of 2.8 A to 5.8 A. Their useful life is more than 4000 h at a temperature of +125 °C at the rated voltage and ripple current. The industrial series B40950 has a useful life of more than 10.000 h at a temperature of +105 °C at the rated voltage and ripple current.

The web-based [AlCap Tool](#) quickly and easily calculates accurate lifetime under application-specific conditions.

Main applications

- Automotive electronics (e.g., power steering, DC-DC converters, cooling fans, water and oil pumps, and brakes)
- Industrial electronics (e.g., GPUs, robots, e-bikes, e-scooters, and power tools)

Main features and benefits

- Miniaturized dimensions
- Useful life: 4000 h at +125 °C, B40950: 10.000 h at +105 °C
- High ripple current capability
- Low ESR across the temperature range of up to +150 °C
- Standard (suffix 000) and vibration-resistant designs (suffix 100) available (MIL-STD-202, Method 204)
- Vibration resistance: 30 *g* (vibration-resistant series), 5 *g* (standard series)
- Surface mountable and suitable for reflow soldering
- RoHS-compatible

Ordering code	Rated capacitance [μ F]	Rated voltage [V]	ESR [$m\Omega$] (100 kHz, +20 °C)	Temperature range [°C]
B40900*	270 ... 750	25 ... 35	13 ... 20	-55 ... +125
B40910*	56 ... 750	25 ... 80	10 ... 30	-55 ... +150
B40920*	330 ... 820	25 ... 35	13 ... 20	-55 ... +125
B40921*	390 ... 1100	25 ... 35	13 ... 20	-55 ... +125
B40921*	390 ... 1100	25 ... 35	13 ... 20	-55 ... +125
B40930*	330 ... 820	25 ... 35	13 ... 20	-55 ... +145
B40940*	82 ... 270	50 ... 63	15 ... 30	-55 ... +145
B40950*	56 ... 1000	25 ... 80	15 ... 33	-40 ... +105

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, EPCOS, 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 2025, TDK posted total sales of USD 14.4 billion and employed about 105,000 people worldwide.

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