

Capacitors

Extended range of axial hybrid-polymer aluminum electrolytic capacitors

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TDK Corporation has extended its product range of hybrid-polymer aluminum electrolytic capacitors, and now offers two series with an axial design. The B40600* / B40700* series is designed for rated voltages of 25 V and 35 V. These cover a capacitance range from 780 μ F to 2200 μ F. Capacitors in the 63 V voltage class, with capacitance values from 390 μ F to 720 μ F, are available with the B40640* / B40740* series.

The capacitors are produced in four can sizes ranging from 14 x 25 mm to 16 x 30 mm (D x H). These are available in an axial-lead design (B406*) or as a solder star version (B407*), providing a wide variety of mounting options. The inner structure of all axial hybrid-polymer aluminum electrolytic capacitors is optimized for the thermal connection to a heatsink. Thanks to the stable mechanical design, a reliable long-term connection to the heat sink can be achieved, thereby offering excellent heat dissipation. For designs with heat sinks, versions without shrink-on sleeves are offered in both series, while for freestanding assembly, components with a PET shrink-on sleeve are available.

Both series are designed for a wide range of operating temperatures from -55 °C to 150 °C with a useful life of 4000 hours at 125 °C. The great advantage of hybrid-polymer technology is its extremely low ESR values across the wide temperature range. For example, with a can size of 16 x 30 mm and an ambient temperature of 20 °C, an ESR of 3.5 m Ω can be achieved.

These capacitors are typically used in automotive and industrial applications. Examples include bidirectional converters for 48 V boardnet, motor inverters or hybrid vehicles, electrically driven power steering systems, pumps, electrical turbochargers and superchargers, radiator cooling fans, gearbox controls and output filters for switch-mode power supplies.

Main applications

- Bidirectional converters for 48 V on-board supplies
- Motor inverters of hybrid drives
- Electrically driven power steering systems
- Water pumps
- Electrical turbochargers and superchargers
- Radiator cooling fans
- Gearbox controls
- Output filters for switch-mode power supplies

Main features and benefits

- Very low ESR, for example 3.5 mΩ max. at 20 °C in a can measuring 16 x 30 mm
- Wide temperature range from -55 °C to +150 °C
- Service life of 4000 hours at 125 °C [h]

About TDK Corporation

TDK Corporation is a world leader in electronic solutions for the smart society based in Tokyo, Japan. Built on a foundation of material sciences mastery, TDK welcomes societal transformation by resolutely remaining at the forefront of technological evolution and deliberately “Attracting Tomorrow.” It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK’s comprehensive, innovation-driven portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, as well as magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK focuses on demanding markets in automotive, industrial and consumer electronics, and information and communication technology. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2020, TDK posted total sales of USD 12.5 billion and employed about 107,000 people worldwide.

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