

Capacitors

TDK offers compact CeraLink® capacitors in EIA 2220 size

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TDK Corporation (TSE:6762) has expanded its tried-and-tested range of CeraLink capacitors. Previously, only large, ready-to-fit sizes were available. Now, smaller versions with the classic chip design are included in the portfolio in order to increase the areas of application. The new portfolio starts with the EIA 2220 size, measuring 5.7 x 5 x 1.4 mm, is intended for 500 V, and offers a capacitance of 250 nF with very low parasitic coefficients. The new capacitors with the ordering code B58043* are available with both standard and soft termination. TDK will add further designs and voltage classes in the future.

At room temperature, the ESR at 1 MHz is only 40 mΩ, and the ESL is 3 nH, with the values even lower at higher temperatures. A high current capability of up to 9 A_{RMS} is achieved at 200 kHz and 25 °C ambient temperature. The permissible temperature range lies between -40 °C and +150 °C.

Typical applications use the smaller designs in either snubber or output capacitors. Due to its smaller dimensions, the new CeraLink SMD variant can be placed even closer to fast-switching power semiconductors like IGBT modules, SiC-based or GaN-based semiconductors. Alongside the low ESL values, the lead inductance is kept very low.

CeraLink capacitors are based on PLZT ceramics (lead lanthanum zirconate titanate). In contrast to conventional ceramic capacitors, their maximum capacitance is at operating voltage and even increases as the proportion of the ripple voltage increases. The [technical guide](#) offers more explanation on the properties of anti-ferroelectric capacitors.

Main fields of application

- Snubber connection of fast-switching power semiconductors
- Output capacitor

Main features and benefits

- Compact dimensions of just 5.7 x 5 x 1.4 mm (EIA 2220)
- Low ESR of just 40 mΩ at room temperature
- Low ESL of just 3 nH
- High current capability of up to 9 A_{RMS} at 200 kHz, 25 °C

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 2021, TDK posted total sales of USD 13.3 billion and employed about 129,000 people worldwide.

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