

Multilayer Ceramic Capacitors

TDK offers MLCCs with the industry's highest capacitance at 100V for automotive applications in 3225 case size

- New 100 V product for automotive applications with 10 μ F capacitance in 3225 case size (achieving large capacitance)
- Contributing to the reduction of component count and the miniaturization of sets
- Qualified based on AEC-Q200

April 14, 2025

TDK Corporation (TSE: 6762) has expanded its CGA series for automotive multilayer ceramic capacitors (MLCCs) to 10 μ F at 100 V in 3225 size (3.2 x 2.5 x 2.5 mm – L x W x H), with X7R characteristics (Class II dielectric). This is the industry's highest capacitance* for a 100-V rated product in 3225 size and this temperature characteristic. Mass production of the product series began in April 2025.

While power consumption has increased and high-current systems have become more widespread in recent years with the increasing sophistication of ECUs, there is also demand for lighter vehicles (with lighter wiring harnesses), and the use of 48 V battery systems is becoming increasingly widespread. With this, there has been an increasing demand for high-capacity 100-V products, such as smoothing and decoupling capacitors used in power lines.

CGA series 100-V products achieve twice the capacity of conventional products of the same size thanks to optimized material selection and product design. This new product makes it possible to halve the number of MLCCs used and the mounting area, contributing to the reduction of component count and miniaturization of sets. TDK will further expand its lineup to meet the needs of customers.

*Source: TDK, as of April 2025

Glossary

- Smoothing: Charging and discharging of high-capacity capacitors keep down the voltage fluctuations of pulse flows in rectified currents, making them smoother
- Decoupling: Capacitors are inserted between IC power line and the ground to keep down the power line's voltage fluctuations by temporarily supplying a current when the load changes drastically
- AEC-Q200: Automotive Electronics Council. The standards for passive components for automobiles

Main applications

- Smoothing and decoupling of the power lines for various kinds of 48V products for automobiles

Main features and benefits

- Reduced component count and miniaturization of sets because the product offers a high capacitance of 10 μ F in 3225 size
- High reliability qualified based on AEC-Q200

Type	Outer dimensions [mm]	Temperature characteristics	Rated voltage [V]	Capacitance [μF]
CGA6P1X7R2A106K250AC	3.2 x 2.5 x 2.5	X7R	100	10

Samples may be purchased from the product page that is displayed after clicking Type.

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 2024, TDK posted total sales of USD 14.6 billion and employed about 101,000 people worldwide.

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