

 Press Information

## Multilayer Ceramic Capacitors

# **TDK launches industry-leading low-resistance soft-termination X7R MLCCs with 10 $\mu$ F/100 V in the 3225 format for AI servers, humanoids, and xEVs**

- New 100 V SMD component with X7R characteristics has a capacitance of 10  $\mu$ F in the 3225 format.
- Offers low resistance and soft termination for automotive (AEC-Q200) and general applications.
- Contributes to higher reliability, reduction of component count, and miniaturization.

September 8, 2026

TDK Corporation (TSE:6762) announced today that it has expanded its CN series of low-resistance soft-termination SMD MLCCs. This 100-V component with X7R characteristics achieves an industry-leading\* rated capacitance of 10  $\mu$ F in the 3225 format (3.2 x 2.5 x 2.5 mm – L x W x T). Mass production of these new components is scheduled to begin in September 2026. The CN series is TDK's proprietary product line, equivalent to the regular product line in terms of terminal resistance, due to the optimization of its resin electrode structure.

In recent years, the use of 48 V applications has increased in AI servers, humanoid robots, xEVs, and various industrial equipment within the AI ecosystem with the goal of reducing power loss and the weight of wire harnesses. Consequently, the 100 V-rated MLCCs used in power lines must have even larger capacitance. Conversely, in soft-termination products, which are increasingly being adopted as a measure against MLCC cracks caused by external stress, the increased ESR (equivalent series resistance) resulting from the addition of the resin layer has been an issue.

To address this issue, TDK developed the CN series with optimized resin electrode structures. Thanks to the optimized material selection and product design, these components achieve twice the capacitance of TDK's conventional capacitors of the same size while significantly reducing ESR. These new products make it possible to halve the number of MLCCs used in the mounting area, reducing component count and miniaturization of sets and effectively enhancing reliability in 48-V power lines, e.g., in AI servers. TDK will continue to expand its product line to meet the diverse needs of its customers.

\* As of September 2026, according to TDK

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## Main applications

- Smoothing and decoupling of the power lines for various kinds of 48-V applications in AI servers, humanoid robots, xEVs, and various industrial equipment

## Main features and benefits

- TDK's unique terminal structure realizes soft termination MLCC, whose low resistance is equal to that of standard terminal products
- Higher reliability of applications, reduced component count, and miniaturization achieved with resin electrodes, high voltages, and large capacitance
- High reliability qualified based on AEC-Q200 for automotive

| Type*                                | Outer dimensions [mm] | Temperature characteristics | Rated voltage [V] | Capacitance [μF] | Capacitance tolerance [%] |
|--------------------------------------|-----------------------|-----------------------------|-------------------|------------------|---------------------------|
| <a href="#">CNA6P1X7R2A106K250AE</a> | 3.2 x 2.5 x 2.5       | X7R                         | 100               | 10               | ±10                       |
| <a href="#">CNC6P1X7R2A106K250AE</a> |                       |                             |                   |                  |                           |

\*CNA is for automotive, and CNC is for commercial.

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

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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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