

 Press Information

Inductors

TDK expands multilayer inductors for automotive power-over-coax circuits

- Delivers high impedance at frequencies up to 2 GHz
- Provides 1.7 to 2 times higher impedance than conventional components
- Compact 1608 size using multilayer processing technologies

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TDK Corporation (TSE:6762) expands the MLJ1608-G series (1.6 x 0.8 x 0.8 mm; L x W x T) of multilayer inductors for automotive power-over-coax (PoC) circuits. Mass production of these new components began in October 2026.

Automotive PoC enables power and data to be transmitted simultaneously over a single coaxial cable. It is used primarily in automotive cameras that form part of advanced driver-assistance systems (ADAS). Multiple cameras installed at the front, rear, sides, and other areas of a vehicle detect the surrounding environment, and the resulting information is processed by an electronic control unit (ECU) to support safe driving. Traditionally, two cables—one for power and one for data—were required to connect an automotive camera to an ECU. PoC consolidates these functions into just one coaxial cable. This reduces the number of cables in a vehicle, offering benefits such as higher reliability, more compact wiring, reduced vehicle weight, and lower CO₂ emissions.

Before the signals can be processed, PoC systems require a wideband filter consisting of multiple inductors to separate the data signal and the power. Through its proprietary material and structural designs, the MLJ1608-G series achieves high impedance across the frequency range from 300 MHz to 2 GHz, owing to its high inductance of 1.2 μ H, compared with 0.56 μ H for conventional products. In the 100–700 MHz range, it provides 1.7 to 2 times higher impedance than conventional components, thereby delivering effective noise suppression. With its size of 1608, the component also helps to make camera modules smaller.

For the development of inductors for automotive PoC applications, TDK will continue to expand its lineup to meet evolving market needs through optimized designs utilizing multilayer, wire-wound, and thin-film technologies. In doing so, TDK will contribute to improving the quality of PoC transmission signals.

Glossary

- PoC: Transmission technology whereby both data and power are simultaneously transmitted over the same coaxial cable
- ADAS: Advanced driver-assistance systems
- ECU: Electronic control unit

Main applications

- PoC circuits for automotive cameras

Main features and benefits

- Achieves high impedance at frequencies up to 2 GHz
- Achieves 1.7 to 2 times higher impedance than conventional components
- Compact 1608 size using multilayer processing technologies
- AEC-Q200 compliant

Type	Inductance [μH] @25 MHz	DC resistance (typ.) [Ω]	DC resistance (max.) [Ω]	Rated current (max.) [mA] at +105 °C	Rated current (max.) [mA] at +125 °C
MLJ1608WGC1R2MTD25	1.25 ± 20%	0.81	1.20	350	200

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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