

Inductors

TDK announces automotive power-over-coax inductor with industry-leading simplicity and efficiency

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TDK Corporation (TSE:6762) launches the ADL8030VA, a high-performance inductor designed specifically for power-over-coaxial (PoC) applications. Due to its high impedance over a wide frequency range, this component streamlines the PoC filter design by requiring only one single component instead of the conventional approach with two or more inductors. This significantly reduces complexity and cost in advanced driver-assistance systems (ADAS) and other automotive electronics, where space efficiency and reliability are critical. With the ADL8030VA, TDK is once again driving mobility transformation toward a more connected and safe future.

In standard configurations, ADAS sensors like automotive cameras require two separate lines: one power line connected to the battery and a signal line connected to the electronic control unit (ECU). However, with PoC technology, a single coaxial cable can simultaneously carry both power and data, simplifying and reducing the wire harness.

The 7.8 x 2.7 x 2.7 mm (L x W x H) small ADL8030VA series offers inductance values from 10 μ H to 100 μ H with a rated current range of up to 0.82 A, ensuring robust performance from -55 °C to +155 °C across a wide frequency spectrum. Its low DC resistance of less than 0.5 Ω for the types with 22 μ H or less minimizes power losses, enhancing overall energy efficiency. Its compact design is engineered with a ferrite core, enamel copper wire welded to the terminals, and flame-retardant molding. It offers high mechanical stability and meets AEC-Q200 qualification standards, ensuring durability under harsh automotive conditions.

Main applications

- Automotive electronics
- Power-over-coaxial
- Wideband T-bias inductor

Main features and benefits

- Only one component for PoC filtering
- High impedance over a wide frequency range
- High mechanical stability
- Qualified according to AEC-Q200
- Suitable for AOI (automatic optical inspection)

Ordering code	Internal code	Rated inductance L_R [μ H]	DC resistance R_{typ} [Ω]	Rated current I_{temp} (+25°C) [A]
ADL8030VA-100M	B82450A1002E000	10	0.33	0.82
ADL8030VA-150M	B82450A1502E000	15	0.41	0.79
ADL8030VA-180M	B82450A1802E000	18	0.45	0.77
ADL8030VA-220M	B82450A2202E000	22	0.49	0.74
ADL8030VA-680M	B82450A6802E000	68	1.47	0.42
ADL8030VA-101M	B82450A1003E000	100	2.21	0.33

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. 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, software 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 2025, TDK posted total sales of USD 14.4 billion and employed about 105,000 people worldwide.

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