



Press Information

Inductors

TDK launches power inductors for automotive power circuits

- Industry-leading DC resistance of 5 m Ω and a rated current of 10 A achieved
- Usable in high-temperature environments up to +155 °C, the upper guaranteed temperature limit
- Compliant with AEC-Q200 (automotive products)

December 9, 2025

TDK Corporation (TSE: 6762) announced today that it expanded the BCL3520FT series of small power inductors for automotive power circuits ($3.3 \times 3.5 \times 2.0 \text{ mm} - L \times W \times T$). Mass production of the product series began in December 2025.

Inductors like the BCL3520FT series are used in efficient power supply circuits of ECUs. High efficiency is necessary to reduce power losses because ever more ECUs for ADAS applications are being deployed in cars. This drives the development of low-loss, high-functional power inductors. These components must be compact, as they need to be mounted in the limited space of the ECU. High reliability is also crucial, as they must operate in harsh, high-temperature environments.

Thanks to TDK's proprietary metallic magnetic materials and structural designs, the BCL3520FT series achieves industry-leading* electrical properties for 0.47- μ H inductors with such small dimensions. Regarding DC resistance, a low 5 m Ω (typ.) resistance has been achieved, approximately 15% lower than equivalent products available on the market. Using a flat wire instead of a standard round wire reduces heat generation and power loss. Therefore, the components achieve a rated current (I_{sat}) of 10 A, approximately 28% higher than other products, facilitating these products' uses for a range of applications. These high-reliability inductors can be used in high-temperature environments up to +155 °C, the upper guaranteed temperature limit.

TDK will continue to contribute to society with its broad lineup of low-loss, high-efficiency power inductors for many different high-function applications aimed at achieving autonomous driving through the development of products that meet market needs.

* As of December 2025, according to TDK

Glossary

- ADAS: Advanced Driver-Assistance Systems assist drivers in driving and parking functions
- ECU: Electronic Control Unit, electrical circuits that control vehicle systems

Main applications

Power supply circuits for automotive applications (e.g., ADAS, xEV, automotive camera modules)

Main features and benefits



- Industry-leading DC resistance of 5 m Ω and rated current of 10 A
- Usable in high-temperature environments with an upper guaranteed temperature limit of +155 °C
- Compliant with AEC-Q200 (automotive products)

Туре	Inductance [µH] @1 MHz	Withstand voltage [V]	DC resistance [mΩ] typ.	I _{sat} [A] typ.	I _{temp} [A] typ.
BCL3520FT-R47M-D	0.47 ± 20 %	40	5.0	10	11.6

I_{sat}: Current value based on inductance variation (30 % lower than the initial L value)

I_{temp}: Current value based on temperature increase (temperature increase of 40 K by self-heating)

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 solidstate batteries, magnetic heads, AI and enterprise software solutions, and more—featuring numerous marketleading products. These are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics, TDK-Lambda, TDK SensEI, 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 2025, TDK posted total sales of USD 14.4 billion and employed about 105,000 people worldwide.

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