

Inductors TDK launches industry's lowest profile inductors for power circuits

- This series of power inductors has an ultra-low profile of 0.55 mm max
- Proprietary magnetic materials are used to achieve highly efficient power supply circuit designs
- Designed in consideration of module packages housing lower-profile ICs such as chip-scale package (CSP)

October 26, 2023

TDK Corporation (TSE:6762) has announced the introduction of its new PLEA85 series of high-efficiency power inductors developed for battery-powered wearables and other devices, improving operating times. The new series has the lowest profile* in the industry, due to the use of TDK's newly developed low-loss magnetic material and its thin-film processing techniques. Mass production of the product series began this month, October 2023.

Measuring just 1.0 mm (L) x 0.8 mm (W) x 0.55 mm (H), the PLEA85 series enables engineers to miniaturize their design and take full advantage of low-profile ICs such as CSP. The bottom electrode and partly L-shaped form on the side makes suitable for high-density surface mounting, helps suppress misplacement during mounting and improves terminal strength to create a more robust end-product.

It is anticipated that wearable devices with increased performance and density will be developed in the future. Accordingly, demand for thinner, lighter and smaller electronic components will increase. TDK will widen its lineup of high-efficiency small-sized and low-profile inductors that will be key parts of power circuits to fulfill market needs.

*As of October 2023, according to TDK

Glossary

- CSP: Chip-Scale Package
- TWS: True Wireless Stereo

Main applications

- Wearable devices like true wireless stereo (TWS) earphones, hearing aids and smartwatches
- Small-sized power supply modules

Main features and benefits

- Thin-film power inductor's proprietary low-loss metal magnetic material achieves a highly efficient power circuit
- Compact size of 1.0 mm (L) x 0.8 mm (W) x 0.55 mm (H) facilitates PCB space saving and reduce weight



Key data

Туре	Inductance [µH]	DC resistance [mΩ] max.	lsat [A] max.	Itemp [A] max.
PLEA85DCAR47M-1PT00	0.47 ± 20%	120	0.7	1.0
PLEA85DCA1R0M-1PT00	1.0 ± 20%	300	0.6	0.85
PLEA85DCA2R2M-1PT00	2.2 ± 20%	600	0.4	0.55

Isat: Current value based on inductance variation (30% lower than the initial inductance value) Itemp: Current value based on temperature increase (Temperature increase of 40 °C by self-heating)

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 2023, TDK posted total sales of USD 16.1 billion and employed about 103,000 people worldwide.

You can download this text and associated images from https://www.tdk.com/en/news_center/press/20231026_01.html

Further information on the products can be found under https://product.tdk.com/system/files/dam/doc/product/inductor/inductor/smd/catalog/inductor_commercial_power_plea85d_en.pdf



Contacts for regional media

Region	Contact		Phone	Mail
Japan	Mr. Daiki ITO	TDK Corporation Tokyo, Japan	+813 6778-1055	TDK.PR@tdk.com
ASEAN	Ms. Jiang MAN Ms. Pei Lu LEE	TDK Singapore (Pte) Ltd. Singapore	+65 6273 5022	asean.inquiry@sg.tdk.com
Greater China	Ms. Clover XU	TDK China Co., Ltd. Shanghai, China	+86 21 61962307	TDK.PR-CN@tdk.com
Europe	Mr. Frank TRAMPNAU	TDK Management Services GmbH Duesseldorf, Germany	+49 211 9077 127	frank.trampnau@tdk.com
America	Ms. Sara M. LAMBETH	TDK Corporation of America Irving, TX, USA	+1 972-409-4519	sara.lambeth@us.tdk.com