

Inductors

Low-profile power inductor for advanced driver assistance systems

- Low-profile IEC 2012 package with an insertion height of just 0.5 mm
- Low leakage flux
- Qualified to AEC-Q200

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TDK Corporation announces the MLD2012 multilayer inductor for automotive power circuits. The new component that is based on a ferrite core is available in a compact IEC 2012 (EIA 0805) package with a footprint of 2.0 mm x 1.25 mm and an insertion height of just 0.5 mm. The power inductor, which is qualified to AEC-Q200, offers an inductance value of 0.47 μH and a rated current of 1200 mA. Thanks to its excellent electrical performance and broad operating temperature range of $-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$, the low-profile component is suitable for automotive applications, especially in advanced driver assistance systems (ADAS), where it helps enable even smaller cameras, for example. The MLD2012 inductor is also suitable for in-vehicle infotainment (IVI) and telematics systems as well as in the various automotive ECUs and modules. Mass production of the MLD2012 started in March 2018.

Like the existing MLD2016 series of power inductors, the new MLD2012 features a multilayer structure in order to achieve low leakage flux, thus expanding TDK's lineup of ferrite core power inductors for an increasing range of automotive applications.

Main applications

- Advanced driver assistance systems (ADAS)
- In-vehicle infotainment (IVI) and telematics
- Various ECUs and modules

Main features and benefits

- Low-profile IEC 2012 package with an insertion height of just 0.5 mm
- Low leakage flux
- Broad operating temperature range from $-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$
- Qualified to AEC-Q200

Key data

Type	Dimensions [mm]	Inductance [μ H] ($\pm 20\%$)	DC resistance [Ω] ($\pm 30\%$)	Rated current [mA] *
MLD2012SR47T	2.0 x 1.25 x 0.5	0.47	0.12	1200
MLD2016S1R0M	2.0 x 1.6 x 0.85	1.0	0.12	1100
MLD2016S1R5M		1.5	0.15	1000
MLD2016S2R2M		2.2	0.17	900
MLD2016S3R3M		3.3	0.23	800
MLD2016S4R7M		4.7	0.25	750

* Based on a temperature increase of 40 K by self-heating

About TDK Corporation

TDK Corporation is a leading electronics company based in Tokyo, Japan. It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK's portfolio includes passive components, such as ceramic, aluminum electrolytic and film capacitors, ferrites and inductors, high-frequency products, and piezo and protection components, as well as sensors and sensor systems and power supplies. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK's further main product groups include magnetic application products, energy devices, and flash memory application devices. TDK focuses on demanding markets in the areas of information and communication technology and automotive, industrial and consumer electronics. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2017, TDK posted total sales of USD 10.5 billion and employed about 100,000 people worldwide.

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Further information on the products can be found under https://product.tdk.com/info/en/catalog/datasheets/inductor_automotive_power_mld2012_en.pdf.

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