Inductors

Compact Z transponder coils for automotive applications

- Dimensions of only 7.7 mm x 7.4 mm x 2.65 mm
- Qualified to AEC-Q200
- High sensitivity

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TDK Corporation presents a new series of EPCOS z-axis transponder coils for passive entry, passive start (PEPS) car access systems. With their dimensions of just 7.7 mm x 7.4 mm x 2.65 mm the components are extremely compact and feature a very low insertion height. The B82451L*E402 series comprises seven transponder coils covering an inductance range from 1.0 mH to 10.0 mH. Depending on the type, the transponder coils feature a sensitivity of between 7 mV/µT and 23 mV/µT at 125 kHz. The Q factor of the new components is between 50 and 58.

The injection-molded plastic baseplate and laser-welded connections of the winding ensure that the Z transponder coils are extremely robust. The new components are also qualified according to AEC-Q200.

Moreover, the Z transponder coils can be combined very well with the EPCOS B82450A*A* and B82450A*E* transponder coil series for the x- and y-axes. With their footprints of just 11.4 mm x 3.5 mm and 8 mm x 2.7 mm, respectively, these components are also very compact. Solutions using three discrete transponder coils offer high flexibility of design and can save space on the PCB. A design combining the new Z transponder coil with two 8-mm X and Y transponder coils, for example, needs an area of just 100 mm². All EPCOS transponder coils are RoHS compatible.

Main applications

- Passive entry, passive start (PEPS) car access systems

Main features and benefits

- High sensitivity
- Qualified according to AEC-Q200
- RoHS compatible

Key data

Series	Dimensions [mm]	Inductance [mH]	Sensitivity [mV/µT]	Q factor
B82451L*E402	7.7 x 7.4 x 2.65	1.0 to 10	7 to 23	50 to 58

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 electronic components, modules and systems* marketed under the product brands TDK and EPCOS, power supplies, magnetic application products as well as energy devices, flash memory application devices, and others. TDK focuses on demanding markets in the areas of information and communication technology and consumer, automotive and industrial 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 2016, TDK posted total sales of USD 10.2 billion and employed about 92,000 people worldwide.

* The product portfolio includes ceramic, aluminum electrolytic and film capacitors, ferrites, inductors, high-frequency components such as surface acoustic wave (SAW) filter products and modules, piezo and protection components, and sensors.

You can download this text and associated images from www.epcos.com/pressreleases.

Further information on the products can be found under www.epcos.com/transponder.

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