

# World's smallest transponder coils for automotive electronics

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TDK Corporation presents new EPCOS SMT transponder coils with extremely compact dimensions: Measuring just 4.5 mm x 3.2 mm x 3.2 mm, the TC1812 has an inductance of 2.38 mH and is designed for operation in the Z-axis. The TC1210 coil is available with an inductance value of 1.08 mH or 1.34 mH, depending on type, and is suitable for operation in either the X- or Y-axis. Furthermore, both TC1210 versions are currently the smallest transponder coils in the world as they measure just 3.2 mm x 2.5 mm x 2.2 mm.

Thanks to the reduced dimensions, it has also been possible to reduce the mass of the components by about a third compared to the predecessor products. For example, the TC1210 (B82450A1084C000) weighs just 50 mg, while the TC1812 (B82451A2384D000) weighs only 120 mg. This makes them an excellent choice for [tire pressure](#) monitoring

systems (TPMS). These applications demand especially robust, low-mass components due to the high acceleration forces that are encountered. The terminals of the windings are laser-welded and provide high mechanical stability.

The TC1210 coil has a high sensitivity of 3.1 mV/ $\mu$ T or 3.5 mV/ $\mu$ T, depending on the type, while the TC1812 coils offers a sensitivity of 7.6 mV/ $\mu$ T. All new transponder coils are designed for a center frequency of 125 kHz, comply with the AEC-Q200 standard and are RoHS-compatible.

## **Main applications**

- Tire pressure monitoring systems (TPMS)
- Operation in the X- or Y-axis (TC1210)
- Operation in the Z-axis (TC1812)

## **Main features and benefits**

- World's smallest transponder coils for automotive electronics
- High sensitivity
- Qualified to AEC-Q200
- RoHS-compatible

Provided by TDK Corporation

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