

## Inductors

### Multilayer ceramic coils with the highest inductance

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- Inductance of 0603 components increased to up to 180 nH.

August 25, 2011

TDK-EPC, a group company of TDK Corporation, presents the TDK MLG0603S series of multilayer ceramic coils with the world's highest inductance values\*. These 0603 inductors feature an inductance of up to 180 nH at 100 MHz. Mass production started in August 2011.

To increase the inductance, TDK-EPC optimized the coil electrode design, and achieved a greater number of thinner layers through improvements in materials and process technologies. As a result, the existing lineup of products, which previously offered inductances up to 100 nH, was expanded with the addition of six new components with inductances ranging from 110 to 180 nH. The 0603S series lineup now includes 62 components (E24 series) with DC resistance values ranging from 0.1 to up to 8.5  $\Omega$ , rated currents from 50 to 600 mA, and inductances from 0.3 to 180 nH.

The ceramic coils have an operating temperature range of -55 to +125 °C and are designed for use in the RF circuits of mobile communications devices such as mobile phones and smartphones. They are also suitable for use in other RF signal circuits such as those found in Bluetooth devices.

\* As of August 2011, according to TDK investigations.

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#### Glossary

- E24: preferred number series defined by international standard IEC 60063 that subdivides the interval from 1 to 10 into 24 logarithmic steps. Other preferred E-series are E48 and E96, especially for extremely narrow-tolerance resistors.

#### Main applications

- RF circuits of mobile phones, smartphones, cordless phones, and other mobile communications devices.

#### Main features and benefits

- Inductance increased to up to 180 nH, the industry's highest rating for a 0603 component.
- RoHS-compatible and suitable for lead-free soldering.

## Key data

Type	MLG0603S
Inductance [nH]	0.3 to 180
Operating temperature range [°C]	-55 to +125
DC resistance [Ω]	0.1 to 8.5 (max)
Rated current [mA]	50 to 600
Dimensions [mm]	0.6 x 0.3 x 0.3

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## About TDK-EPC Corporation

TDK-EPC Corporation (TDK-EPC), a TDK group company, is a leading manufacturer of electronic components, modules and systems headquartered in Tokyo, Japan. TDK-EPC has emerged from the combination of the electronic components business of TDK and the EPCOS Group and markets its products under the product brands, TDK and EPCOS.

The product portfolio includes ceramic, aluminum electrolytic and film capacitors, ferrites and inductors, high-frequency components such as surface acoustic wave (SAW) filter products and modules, piezo and protection components, and sensors. With this product spectrum TDK-EPC offers a broad range of products and solutions of outstanding value from a single source and focuses on demanding markets in the areas of information and communication technology and automotive, industrial and consumer electronics. The company has design and manufacturing locations and sales offices in Asia, Europe, and in North and South America.

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