

Inductors

High-frequency multilayer inductor series with world's highest inductance value

- MLG0402Q series now features inductance values of up to 33 nH, the world's highest for an 0402 inductor.

August 30, 2012

TDK Corporation expanded its MLG0402Q series of high-frequency multilayer inductors with new types that achieve inductance values of up to 33 nH, the world's highest* for a tiny 0402 inductor (EIA). With the development of these new components, the TDK MLG0402Q series now includes a total of 55 types with inductance values ranging from 0.2 nH to 33 nH, rated currents from 120 mA to 350 mA, and typical DC resistance values from 0.03 Ω to 2.71 Ω . Mass production began in August 2012.

To raise the inductance, TDK optimized the coil pattern design of its multilayer inductors and employed improved materials and process technologies to create a greater number of layers that are even thinner than in existing products. As a result, four new products have been added to the series, raising the maximum inductance from 15 nH to 33 nH. The new components are particularly well suited for use in the high-frequency circuits of mobile devices such as smartphones and conventional mobile phones. Thanks to the wide operating temperature range from -55 °C to +125 °C, the MLG0402Q series is also ideal for use in the high-frequency circuits of other devices such as Bluetooth devices and cordless phones.

* As of August 2012, according to TDK investigations.

Main applications

- High-frequency circuits (power amplifiers, voltage-controlled oscillators, front-end modules) of mobile communications devices, such as smartphones, conventional mobile phones, Bluetooth devices and cordless phones.

Main features and benefits

- Inductance increased to 33 nH, the world's highest for an 0402 inductor.

Key data

Type	MLG0402Q series (expanded L range)
Inductance [nH]	18 to 33
Minimum Q (@100MHz)	3
Maximum rated current [mA]	120 to 140
Typical DC resistance [Ω]	1.94 to 2.71
Dimensions [mm]	0.4 x 0.2 x 0.2
Operating temperature range [°C]	-55 to +125

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 current product line includes passive components, magnetic application products as well as energy devices, flash memory application devices, and others. TDK today 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 2012, TDK posted total sales of USD 9.9 billion and employed about 79,000 people worldwide.

About TDK-EPC Corporation

TDK-EPC Corporation, a TDK group company, is a leading manufacturer of electronic components, modules and systems, headquartered in Tokyo, Japan. TDK-EPC was founded in 2009 from the combination of the passive components business of TDK and the EPCOS Group. The portfolio includes ceramic, aluminum electrolytic and film capacitors, ferrites and inductors, magnets, high-frequency components such as surface acoustic wave (SAW) filter products and modules, piezo and protection components, and sensors. The company markets the product brands TDK and EPCOS.

You can download this text and associated images from www.global.tdk.com/news_center/press/aah41400.htm.

Further information on the products can be found under www.tdk.co.jp/tefe02/e521_mlg_02.pdf.

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