

## Multilayer ceramic chip capacitors C0402 (EIA 01005) MLCC with twice the capacitance

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- Dielectric material is 30 percent thinner than in previous products
- Rated capacitance doubled to 0.22  $\mu\text{F}$

October 23, 2012

TDK Corporation presents a new MLCC in size 0402 (IEC) with the highest rated capacitance of 0.22  $\mu\text{F}$ \*. The TDK C0402 is designed for decoupling applications in compact mobile devices such as smartphones. With its rated voltage of 6.3 V, the capacitor is suitable for any voltage present in such applications. Thanks to further advanced fine-grain technology and microstructure control, the dielectric material of the new TDK C0402 type is more than 30 percent thinner, thus offering twice the capacitance in the same volume as existing TDK products. As a result, the new capacitor facilitates a reduction in mounting footprint requirements and parts count. In addition, the TDK C0402 offers outstanding reliability. Mass production will start in December 2012.

In order to make full use of the performance characteristics of dielectric material, the sintering process has been optimized as well. The various technologies that have been improved during the development process will be applied to other form factors as well, and a further increase in capacitance is also envisioned.

\* As of October 2012, according to TDK investigations

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### Glossary

- DC voltage characteristics: A rating that is specific to high dielectric constant type (Class II) capacitors, where capacitance decreases when a DC voltage is applied.

### Main applications

- Decoupling and smoothing in IC power supply lines in compact mobile devices such as smartphones

### Main features and benefits

- Approximately twice the capacitance of existing TDK products
- Rated voltage of 6.3 V

### Key data

Case size [IEC (EIA)]	Dimensions [mm]	Rated voltage [V]	Capacitance [ $\mu\text{F}$ ]	Thermal characteristics
C0402 (EIA 01005)	0.4 x 0.2 x 0.2	6.3	0.22	X5R

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## 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 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 the manufacturer of TDK's electronic components, modules and systems and is headquartered in Tokyo, Japan. TDK-EPC was founded on October 1, 2009, from the combination of the electronic components business of TDK and the EPCOS Group. 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.

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## Contacts for regional media

Region	Contact	Phone	Mail
Japan	Ms. Mari KONISHI TDK Corporation Tokyo, Japan	+813 5201-7102	<a href="mailto:pr@jp.tdk.com">pr@jp.tdk.com</a>
ASEAN	Ms. Emi OGATA TDK Singapore (Pte) Ltd. Singapore	+65 6273 5022	<a href="mailto:asean.inquiry@sg.tdk.com">asean.inquiry@sg.tdk.com</a>
Greater China	Ms. Clover XU TDK China Co., Ltd. Shanghai, China	+86 21 61962307	<a href="mailto:pr@cn.tdk.com">pr@cn.tdk.com</a>
Europe	Mr. Frank TRAMPNAU TDK Electronics Europe GmbH Dusseldorf, Germany	+49 211 9077 127	<a href="mailto:trampnau@eu.tdk.com">trampnau@eu.tdk.com</a>
America	Ms. Sara M. REYNOSO TDK Corporation of America Irving, TX, USA	+1 972-409-4519	<a href="mailto:sara.reynoso@us.tdk.com">sara.reynoso@us.tdk.com</a>