

Multilayer ceramic chip capacitors **0603 (EIA 0201) MLCC enable high-density mounting**

- World's first* bottom terminal design achieves 50 percent reduction of mounting footprint

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TDK Corporation has developed the CJA series of TDK SRCT capacitors in case size 0603 (EIA 0201). Compared to existing multilayer ceramic capacitors (MLCCs) of the same case size, the mounting footprint has been reduced by 50 percent. In this TDK-developed design with bottom terminals, a solder resist prevents wetting of the face and side areas of the MLCCs with solder. This allows the clearance between mounted components to be reduced to 50 μm or less, permitting high-density mounting. The risk of short circuits due to contact with the solder is simultaneously excluded. Thanks to the 50 percent reduction in mounting footprint, the number of components on a given surface can be doubled. Mass production will start in April 2013.

The new capacitors are designed for small mobile devices like smartphones and decoupling applications in small modules. They are designed for a rated voltage of 6.3 V and offer capacitance values of 0.1 μF to 1.0 μF .

In future, the new coating technology will be expanded to MLCCs of case size 0402 (EIA 01005), in order to provide additional space saving advantages.

* As of December 2012, according to TDK investigation

Glossary

- SRCT: solder resist coated termination – terminals partially coated with solder resist
- Solder resist: a resin used as an insulating film to protect the circuits on a printed circuit board

Main applications

- Decoupling of IC power supply leads for smartphones and small modules

Main features and benefits

- Mounting footprint reduced by 50 percent
- TDK design with bottom terminals allows high mounting density in case size 0603
- A component of size 0603 can be used on a mounting area of size 0402
- Allows higher capacitance values than for capacitors of case size 0402

Key data

Type	Dimensions [mm]	Rated voltage [V]	Capacitance [μ F]	Temperature characteristics
CJA0603 series	0.6 x 0.3 x 0.3	6.3	0.1 to 1.0	X5R

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 which are 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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