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TDK Features Industry's First* MLCC with Settable ESR at APEC 2009

New Capacitor Stabilizes ESR Values, Simplifies Circuit Design & Contributes to Component Reduction

Mount Prospect, IL February 16, 2009—TDK Corporation will feature the industry's first multilayer ceramic chip capacitor with a new internal structure that allows Equivalent Series Resistance (ESR) values to be set to any value within a specified range at the **Applied Power Electronics Conference** this week in Washington D.C.

Available in 0603 and 0805 configurations, the ESR is controlled by a patented structure approach. Due to smaller and increasingly advanced functions of electronic devices such as PCs and mobile information terminals, manufacturers are making strong demands for reduced mounting areas and miniaturization of components. As a result, power supply circuits on boards with ever higher mounting densities must combine multiple capacitors of different types. In addition, impedances must be adjusted over broad frequency ranges. The effects of the minute electrical resistance elements present in the capacitors themselves can cause interference among multiple capacitors depending on the frequency, which can lower noise suppression effects. Generally, it is necessary to use even more components to control these effects.

To respond to these demands, TDK used its strengths in materials technology and multilayering technology to develop a capacitor with a new internal structure that allows ESR values to be set while maintaining the same capacitance as standard products. Also of importance, the ESL value can be held constant or even lowered in some cases by this new structural approach.

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Because the ESR values of capacitors located in the vicinity of the CPU can be set, there are smaller changes in impedance between the power supply and the CPU over a broad range of frequencies as well as voltage variation limiting effects. Limiting the variation in voltage stabilizes the current signal and eliminates effects on other circuits.

These new capacitors are suitable for use in applications that require high power supply quality such as communication base stations and high-end PCs. Although the sizes are the same as standard products, resistance has been adjusted to be up to 1200 mΩ for the 0603 product and 500 mΩ for the 0805 product, and the ESR values can be set to any value within a specified range. By adding resistance components, the variation in impedance over frequency can be lower than standard products, which may contribute to reducing the number of components needed. The mounting method is the same as that for two-terminal products, making switching from existing components easy.

* As of February 2008, according to TDK investigations.

For more information on the MLCC with Settable ESR please email APEC2009@tdktca.com.

About TDK:

TDK Corporation of America (TCA) was established in 1974 in California as the sales and marketing force for electronic components in North America and Latin America. TCA has grown into a sales force of fifteen offices in the U.S. and a headquarter office located in Mount Prospect, Illinois. The combined efforts of sales, marketing and technical personnel have built the TDK name as a respected leader in the industry. Known for reliability and expertise, TDK strives to respond to all customers' needs anywhere in North America. For additional information on TDK products visit our web site at www.tdk.com.

TDK Corporation (NYSE: TDK), a leading global electronics company based in Japan. The company was established in 1935 to commercialize "ferrite," a key material in electronics and magnetics. TDK's current product line includes ferrite materials, electronic components, factory automation solutions, anechoic chambers & test systems, magnetic heads for hard disk drives (HDD) and power supplies. Net sales in FY08 were US\$8.7 billion.

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