



For Immediate Release

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TDK DEVELOPS SOFT TERMINATION MULTILAYER CERAMIC CAPACITORS

Conductive-resin electrode layer absorbs external stress and protects ceramic body

Mount Prospect, IL, May 29, 2009 —TDK Corporation has announced that it has developed soft termination MLCC capacitors that offer greatly improved thermal and mechanical robustness. Production for these new capacitors began in April, samples are now available.

Historically, standard MLCC applications have been susceptible to cracking due to thermal shock and temperature cycling. Mechanical shock and board flexure have also been a cause of cracking in the use of standard MLCCs. These cracks can lead to low insulation resistance and electrical shorting failures.

To address these reliability issues with the C1005 (CC0402) through C3225 (CC1210) case sizes, TDK has developed a four-layer termination structure that exhibits increased durability to thermal and mechanical stresses when compared to traditional MLCC products. This newly developed product adds a conductive resin layer between the copper base material and the nickel plating layer.

While the 100% matte Sn termination finish is compatible with Pb solder systems, the soft termination MLCCs advantages are most significant when used with Pb-free solder. Temperature cycling performance of the soft-termination construction is three times that of the standard product.

Mechanically, as well, the soft termination construction exhibits improved performance with Pb-free solder applications. This new MLCC series withstands much greater board bend stress with no change in capacitance and an open-mode failure condition when compared to traditional MLCCs. Resistance to mechanical shock (e.g. drop test) has been increased significantly.

The new soft termination MLCC capacitors are targeted for use in applications that require high reliability, improved resistance to thermal stresses, and increased mechanical robustness. These include automotive engine/transmission control units, switching power supplies, telecom base stations, and electronic circuits utilizing ceramic substrates. This is especially applicable to remote installations or limited access where field replacement can be very costly.

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Main Features

1. Improved resistance to thermal shock and thermal cycling
2. Improved resistance to mechanical shock and board flex
3. High reliability for remote access applications (e.g. telecom base station)
4. High temperature/vibration environments (e.g. automotive ECU)

Main Applications

1. Automotive (battery line)
2. Switching power supplies
3. Telecom base station
4. Power circuits on insulated metal substrates (IMS)

Product Range

1. Two-terminal C1005 (CC0402) ~ C3225 (CC1210)
 - a. X8R
 - b. X7R
 - c. C0G
 - d. X7R Mid Voltage (100, 250, 630V)
 - e. X7S

TDK Corporation (NYSE: TDK) is 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 FY09 were US\$7.4 billion. For more information on TDK products visit our website at www.TDK.com.

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