

September 29, 2005

**Murata, TDK, Taiyo Yuden:  
Three Companies Jointly Propose New Recommended Dimensions  
for Ultra-Compact Multilayer Chip Ceramic Capacitors  
in the EIA 0201 Size,  
toward Spread of Environmentally Friendly Bulk Mounting**

Murata, TDK, and Taiyo Yuden are currently preparing the environment toward the spread and expansion of the environmentally friendly bulk mounting method, through reduction of discarded taping materials, reduction of parts storage space, and reduction in resources used. On August 31 of last year, the three companies took an important step forward with a joint proposal for a higher level of precision for recommended dimension tolerances in the EIA 0402 size (1.0 × 1.0 × 0.5mm) and EIA 0603 size (1.6 × 0.8 × 0.8mm), which together account for about 80% of the world market by volume for multilayer ceramic capacitors.

Now these efforts have moved ahead still more with a proposal for new recommended parts dimension tolerances in the EIA 0201 size (0.6 × 0.3 × 0.3mm) ultra-compact multilayer ceramic capacitors, for which demand is rising fast as devices are packaged ever more compact with high-density surface mounting.

The new recommended parts dimension tolerances are the result of joint studies by the three companies in use of Taiyo Yuden's unit-type bulk feeder that is now on sale. Results of reliability tests for the newly recommended dimension tolerance of the EIA 0201 size multilayer ceramic capacitor, using the unit-type bulk feeder, show more than 99.99% for the success rate of pick-and-place operations that is used as the benchmark for mounting reliability on actual production lines. Compared to the 99.9% success rate with the conventional dimension tolerance, the result represented a leap upward in high precision.

The three companies' proposed recommended tolerance for the EIA 0201 size multilayer ceramic capacitor is expected, in combination with bulk mounting, to open up new possibilities for high-density bulk mounting of ultra-compact multilayer ceramic capacitors in the area of environmentally friendly surface mounting, and also in clean room assembly processes where ICs, semiconductors, multilayer ceramic capacitors, and other passive components are mounted on ultra-compact modules.

As happened last year, the three companies are to make a detailed presentation of the new recommended dimension tolerances at a meeting of the Bulk Feeding Survey Research Group held by the Japan Electronics and Information Technology Industries Association (JEITA), to ask for the association members' cooperation in preparing the environment for bulk mounting of parts. Moreover, JEITA's Electronic Components Engineering Committee plans to study the effects on JEITA standards of the recommended dimension tolerances for both the previous EIA 0603 and EIA 0402 sizes and the new EIA 0201 size.

**[Conventional dimensions and recommended tolerances]**

| Case size     |                                 | Conventional dimension tolerance | New recommended dimension tolerance |
|---------------|---------------------------------|----------------------------------|-------------------------------------|
| EIA 0201 size | Length and tolerance            | 0.60 ± 0.03 mm                   | 0.60 ± 0.03 mm                      |
|               | Width and height, and tolerance | 0.30 ± 0.03 mm                   | 0.30 ± 0.025 mm                     |

