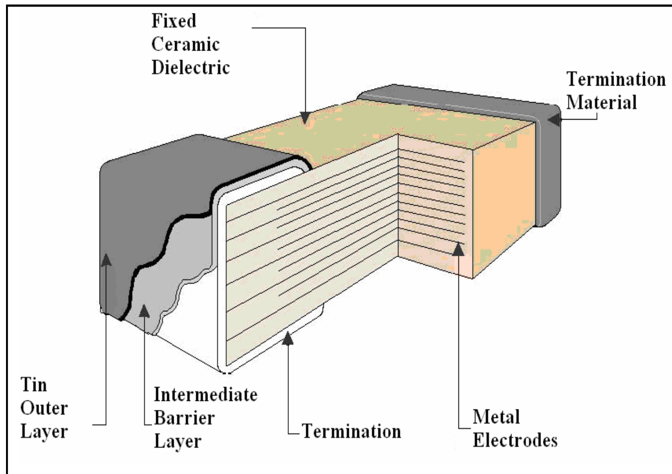
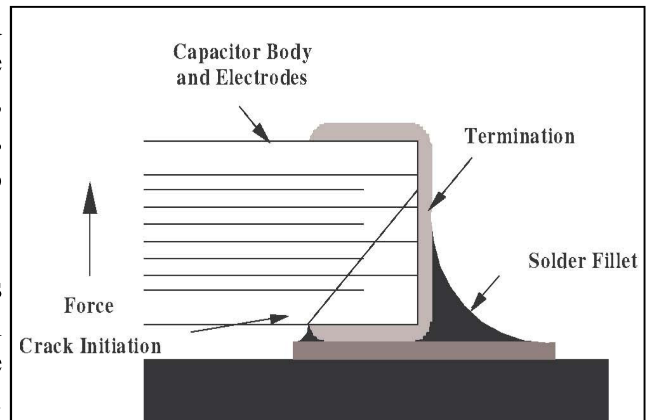
Flexi-Q® Minimizes Mechanical Stress Cracking for High Q MLCs

DLI is releasing three termination options that minimize the stresses that contribute to MLC cracking during board-mounting or board flexure in the field.

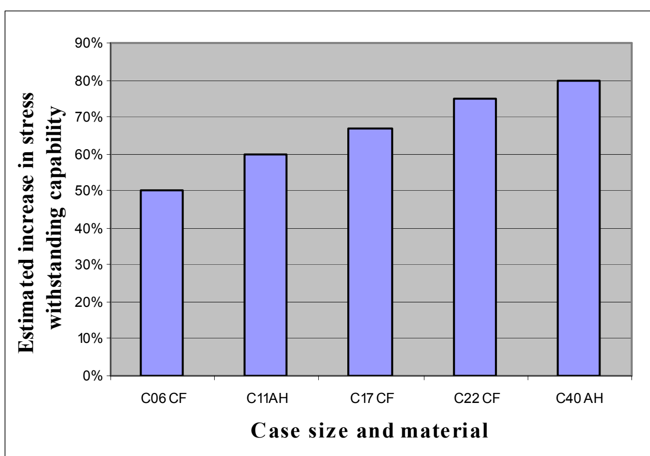


Even our highly reliable high Q MLCs can be vulnerable to stress cracking at PWB assembly and during normal board flexing after assembly. We have introduced an innovative termination, in conjunction with Syfer Technologies, that provides improved resilience to the risk of mechanical stress cracking. This termination is a silver loaded epoxy polymer that is flexible and absorbs some of the strain between the PWB and the ceramic capacitor. The termination is applied using conventional techniques, but instead of being sintered, the polymer is cured.

The cured polymer material has very good adhesion and conductive properties. After the termination process, these capacitors are plated with one of several finish combinations, depending on the customer's application. Flexi-Q® devices may be stored, handled, and soldered without any changes to processes or detrimental effects on performance.



Testing of our Flexi-Q® MLCs indicates these components withstand substantially more stresses before mechanical cracking occurs. The result is a capacitor that is much more forgiving in applications where board flexure is an issue. The chart below highlights the improvements seen in crack resistance of DLI MLCs tested at an outside laboratory.



Flexi-Q® offers the same high level of reliability that customers have come to expect from DLI. Parts terminated in the new Flexi-Q® system show comparable capacitance, DF, IR, WVDC, and ESR to our MLCs terminated with more traditional material systems.

Flexi-Q® is offered in the following barrier layer and plated finishes:

- ► **Q** polymer/Ag adhesion layer, Ni barrier, Sn plate (RoHS)
- ► **Y** polymer/Ag adhesion layer, Ni barrier, Sn/Pb plate
- ► **M** polymer/Ag adhesion layer, Cu barrier, Sn plate (RoHS)

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