

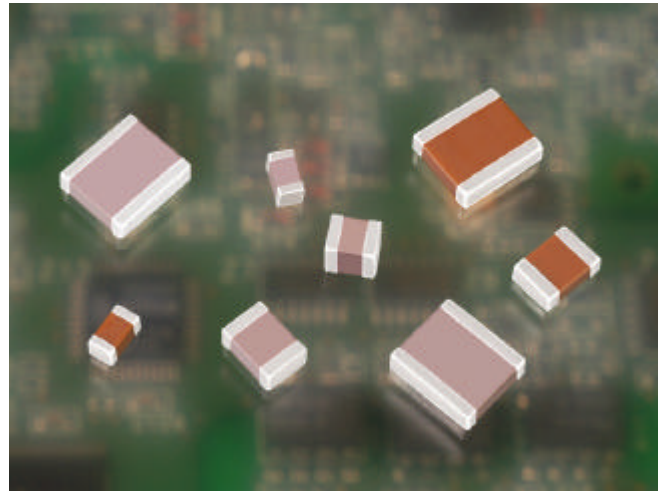
## Commercial Grade High Voltage Surface Mount Capacitors

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KEMET announces the release of a commercial grade, “High Voltage Surface Mount” product line that includes rated voltages from 500V to 3 kV in C0G and X7R dielectrics. Available case sizes range from 0805 through 2225 (EIA) in capacitance values from 1 pF to 0.22  $\mu$ F.

Surface-mount ceramic capacitors have long been used in applications of 200V or less. Voltage capability is determined by the thickness of the dielectric used in the multilayer ceramic capacitor construction. For lower rated voltages, the relationship between the rated voltage versus the dielectric is linear. Increasing the dielectric thickness increases the rated voltage. However, a practical limit to this linear relationship occurs at 500V and above. To extend the voltage capability beyond this limit requires a different approach.

KEMET’s “High Voltage Surface Mount” ceramic capacitors utilize an internal cascading electrode design, which effectively divides the voltage across the device into smaller voltages that each internal section can easily accommodate. This results in less stress on the dielectric, enabling the capacitor to demonstrate high levels of reliability at high voltage.



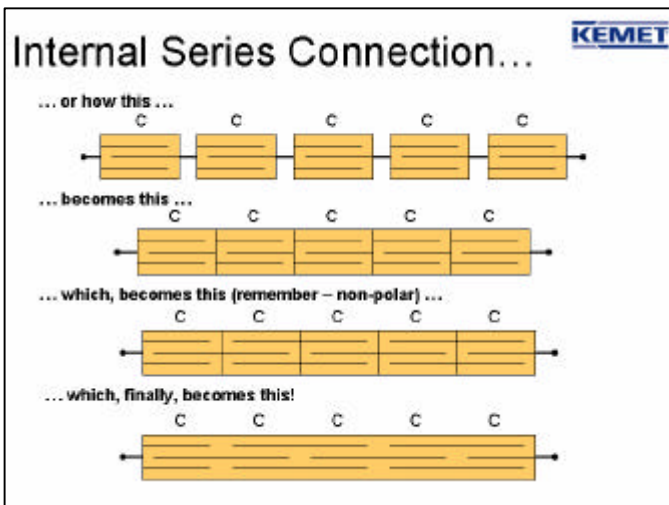
terminations for good solderability. Case sizes 0805 and 1206 are suitable for reflow mounting and wave soldering processes, while larger case sizes should be reflow mounted. KEMET’s new commercial grade “High Voltage Surface Mount” capacitors are RoHS compliant. Both C0G and X7R dielectrics are available in 500V voltage rating increments from 500V to 3000V in 1808 and larger case sizes, from 500V to 2000V for 1206 and 1210 case sizes, and in 500V and 1000V ratings for 0805 case sizes. Please consult KEMET Surface Mount Catalog F3102 for further details.

Potential applications for KEMET’s “High Voltage Surface Mount” ceramic capacitors are illustrated below.

### Applications

Applications for this series include, but are not limited to:

- High Voltage Lamp Circuits (HID, Video Projectors)
- Ballast Circuits for LCD displays and other fluorescent lighting
- Laser light source circuits
- RF antenna transmitter circuits
- Medical (X-ray, MRI, etc.)
- Snubber circuits
- High voltage tank circuits/resonator circuits
- High voltage supply filter circuits
- High voltage coupling/DC blocking circuits
- Input protection for LAN/Telecom products



KEMET’s new commercial grade “High Voltage Surface Mount” ceramic capacitors offer the combination of high insulation resistance and low ESR at high frequency. The capacitors have pure tin (Sn) plated