

Thin-Film Capacitors for Packaged Electronics

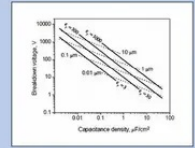
Thin-Film Capacitors for Packaged Electronics deals with the capacitors of a wanted kind, still needed and capable of keeping pace with the demands posed by ever greater levels of integration. It spans a wide range of topics, from materials properties to limits of what's the best one can achieve in capacitor properties to process modeling to application examples. Some of the topics covered are the following:

- Novel insights into fundamental relationships between dielectric constant and the breakdown field of materials and related capacitance density and breakdown voltage of capacitor structures,
- Electrical characterization techniques for a wide range of frequencies (1 kHz to 20 GHz),
- Process modeling to determine stable operating points,
- Prevention of metal (Cu) diffusion into the dielectric,
- Measurements and modeling of the dielectric micro-roughness.

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