

What is a film capacitor?

Film capacitors are also known as plastic film, polymer film, or film dielectric capacitors. Film capacitors are inexpensive and come with a nearly limitless shelf life. The film capacitor uses a thin dielectric material with the other side of the capacitor metallized. Depending on the application, the film capacitor is rolled into thin films.

What is a heavy-duty film capacitor?

Especially for applications with high current pulse loads or high AC loads in electrical systems, heavy-duty film capacitors, here called "power capacitors", are available with dielectric ratings of several kilovolts. But the manufacture of film capacitors does have a critical dependency on the materials supply chain.

What determines the self-inductance of a film capacitor?

The self-inductance or series inductance LS of a film capacitor is due to the magnetic field created by the current in the film metallization and the connections. It is thus determined by the winding structure, the geometric design and the length and thickness of the contact paths.

How reliable are film capacitors?

The most important reliability feature of film capacitors is their self-healing capability, i.e. their ability to clear faults (such as pores or impurities in the film) under the influence of a voltage. The metal coatings, vacuum-deposited directly onto the plastic film, are only 20 ... 50 nm thick.

What is a metallized film capacitor?

Metallized film capacitors are made of two metallized films with plastic film as the dielectric. A very thin (~ 0.03 μm) vacuum-deposited aluminum metallization is applied to one or both sides to serve as electrodes.

What is a polyester film capacitor?

Polyester film capacitors are film capacitors using a dielectric made of the thermoplastic polar polymer material polyethylene terephthalate (PET), trade names Hostaphan or Mylar, from the polyester family. They are manufactured both as metallized wound and stacked versions, as well as film/foil types.

Self-Healing in Metallized Film Capacitors: Theory of Breakdown ... A theory of self-healing ...

Self-healing (SH) in metallized polypropylene film capacitors (MPPFCs) can lead to irreversible ...

Film capacitors are used in electromagnetic interference (EMI) suppression and as safety capacitors (Classes X and Y). While ceramic capacitors offer better dv/dt capabilities, film capacitors are good (with a maximum value of 2200 V/µs) making them suited for use in snubber circuits .

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Film capacitors, plastic film capacitors, film dielectric capacitors, or polymer film capacitors, generically called film caps as well as power film capacitors, are electrical capacitors with an insulating plastic film as the dielectric, sometimes combined with ...

This data book describes fixed capacitors with plastic film dielectrics, also termed film capacitors or FK capacitors. 1 Classification of film capacitors 1.1 Classification by dielectric The characteristics and application possibilities of film capacitors are affected so strongly by the

PET and PP totally dominate the film capacitor dielectric market. PP is a small and simple ...

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