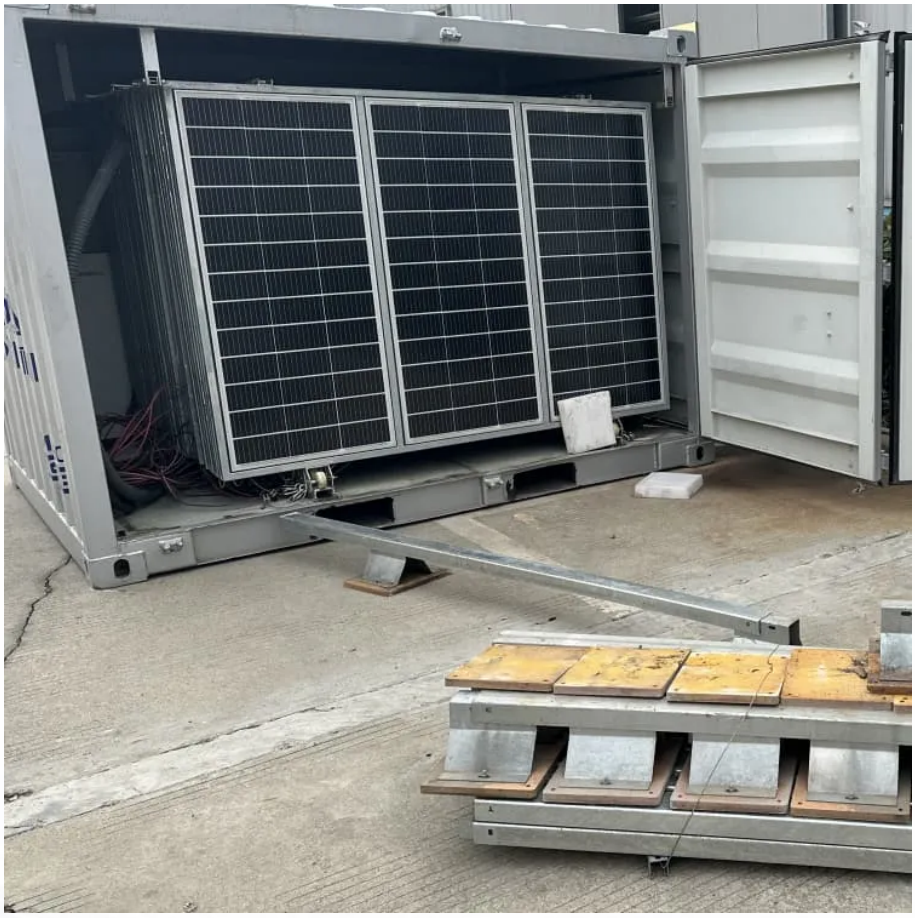
WALMER ENERGY

Tantalum capacitors for large energy storage



Overview

Are tantalum electrolytic capacitors suitable for bulk capacitance applications?

Their lower electrolyte conductivity results in a greater capacitance drop with frequency, suiting wet tantalum electrolytic capacitors ideally to high reliability bulk capacitance applications. Capacitance is measured at 120Hz and 25°C with 2.0V DC bias applied.

Why do tantalum capacitors have a high capacitance?

As the dielectric constant of the tantalum pentoxide and area of the plates are large, resulting in very high capacitance of a tantalum capacitor: The tantalum pellet along with the attached tantalum wire form the anode (positive) plate. The external anode lead wire is welded to the tantalum wire.

Can tantalum wet capacitors withstand reverse voltage?

Tantalum wet capacitors are inherently polar devices with the positive terminal identified on the body of the component. It is advisable to avoid the application of reverse voltage at all times. However, they do have the capability to withstand some reverse voltage as follows: maximum of 125 Hours.

What is the structure of a tantalum wet electrolytic capacitor?

The structure of a Tantalum Wet Electrolytic Capacitor consists of four main elements: a primary electrode (anode), dielectric, a secondary electrode system (cathode) and a wet (liquid) electrolyte. The first, positive electrode (the anode) is a very high surface area structure made of pure tantalum metal.

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