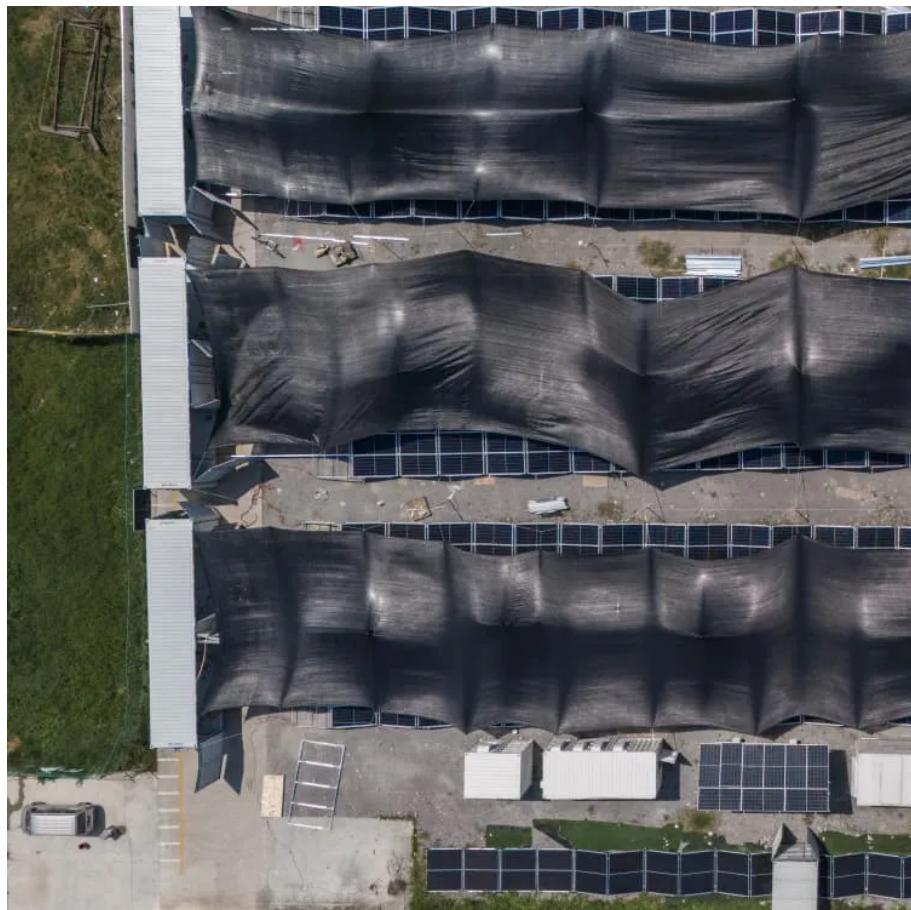




FTMRS SOLAR

Super Farad Capacitor Life





Overview

How long does a super capacitor last?

The life of supercapacitors will double for every 10°C decrease in temperature or voltage by 0.1V. Supercapacitors operated at room temperature can have life expectancies of several years compared to operating the capacitors at their maximum rated temperature. L1= Load life rating of the super capacitor (typically 1000 hours at rated temperature).

What is the life expectancy of a supercapacitor?

The life expectancy of supercapacitors is similar to aluminum electrolytic capacitors. The life of supercapacitors will double for every 10°C decrease in temperature or voltage by 0.1V. Supercapacitors operated at room temperature can have life expectancies of several years compared to operating the capacitors at their maximum rated temperature.

Can a supercapacitor be operated out of a specified range?

Fig. 1 Example of Derating Temperature and Voltage to Extend Lifetime. Abracon does not recommend operating supercapacitors out of their specified ranges. For example, designing a 0-700C supercapacitor into a system that will experience 850C ambient temperature is not recommended, regardless of whether the temperature increase is temporary.

What factors affect the life of a supercapacitor?

Regardless, these variables must be considered under worst-case scenarios. The most common of these variables include Voltage and Temperature. When introduced to overvoltage, supercapacitors can be damaged and certainly shortened in life. In other words, any voltage above the rated voltage for the capacitor will shorten its lifetime.



Super Farad Capacitor Life

Supercaps last longer

The article of the EPCI - European Passive Component Institute "Supercapacitor Degradation and Life-time " August 2022 describes in detail the effects of voltage and current through ...

ANP012 , How does a Supercapacitor age? Lifetime ...

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Supercapacitor Technical Guide

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Supercapacitors Service Life , Nippon Chemi-Con Corporation

Supercapacitors have a finite lifetime. This is affected by the circumstances under which they are used, including environmental conditions such as temperature, humidity, and vibration, and ...

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