

How to Measure the Equivalent Series Resistance of a Supercapacitor

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Abstract

Charging of ultracapacitors is simple while at the same time may present some unique challenges. Unlike batteries, ultracapacitors may be charged and discharged at similar rates. This is very useful in energy recovery systems such as dynamic braking of transport systems. Here are a few characteristics of ultracapacitors that should be kept in mind when integrating/ designing a charging system for the intended application. A very important parameter of a capacitor is the Equivalent Series Resistance which is the undesired internal resistance that appears in series with the wanted capacitance at a given frequency. In this paper are presented two methods to measure this parameter.