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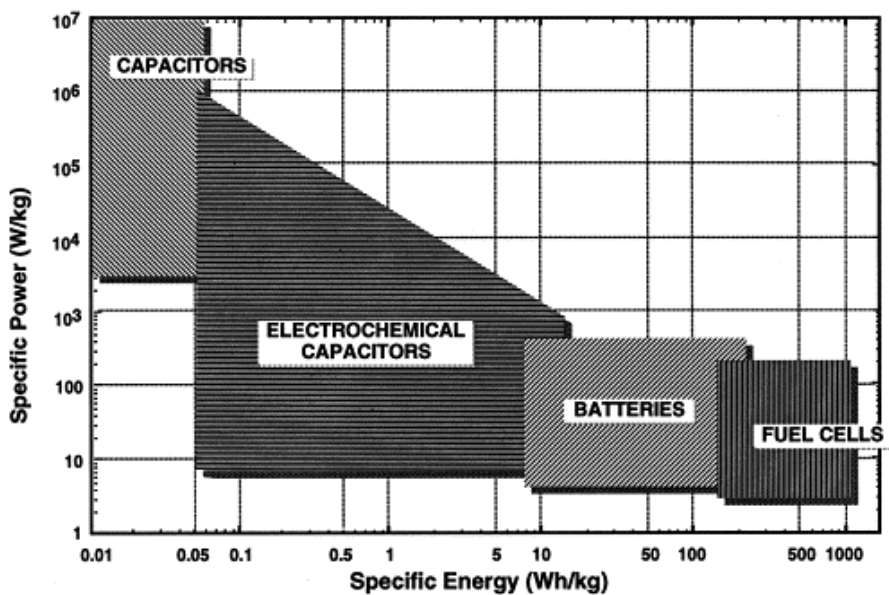
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3. Classification of electrochemical capacitors  
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Figures (17)

Electrochimica Acta  
Volume 45, Issues 15–16, 3 May 2000, Pages 2483–2498

## Principles and applications of electrochemical capacitors

R. Kötz<sup>a</sup>, M. Carlen<sup>b</sup>  
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Abstract  
Electrochemical capacitors (EC) also called 'supercapacitors' or 'ultracapacitors' store the energy in the electric field of the electrochemical double-layer. Use of high surface-area electrodes result in extremely large capacitance. Single cell voltage of ECs is typically limited to 1–3 V depending on the electrolyte used. Small electrochemical capacitors for low-voltage electronic applications have been commercially available for many years. Different applications demanding large ECs with high voltage and improved energy and power density are under discussion. Fundamental principles, performance, characteristics, present and future applications of electrochemical capacitors are presented in this communication.

Keywords  
Electrochemical capacitors; Electronic applications; Voltage; Supercapacitor; Ultracapacitor; Double layer

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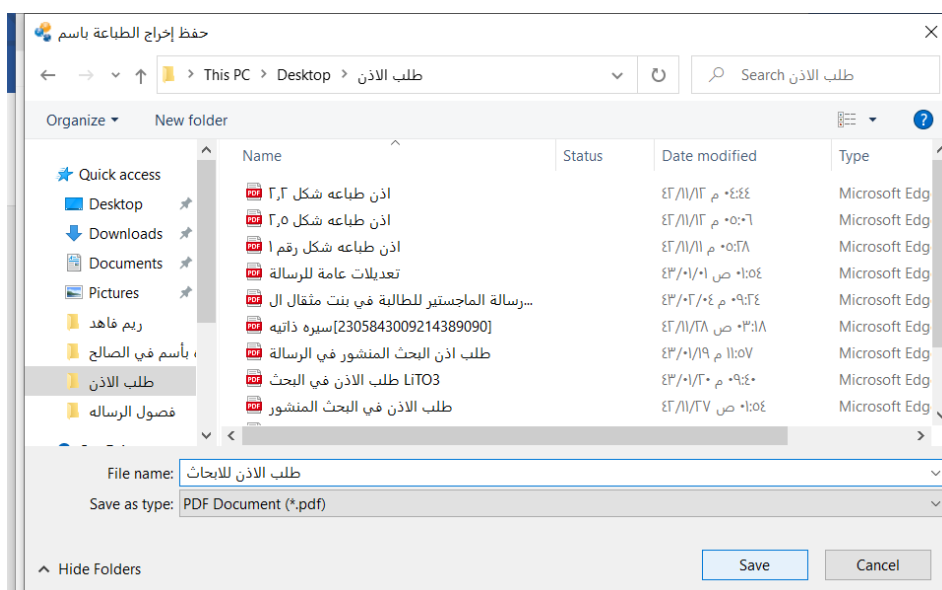
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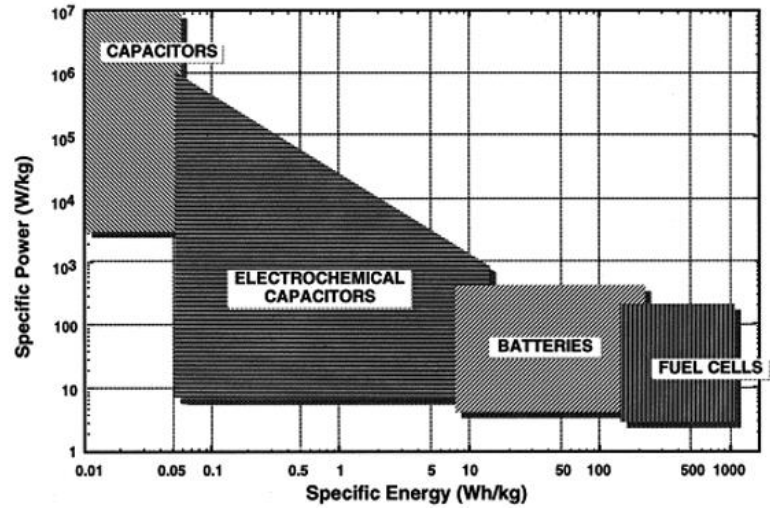


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