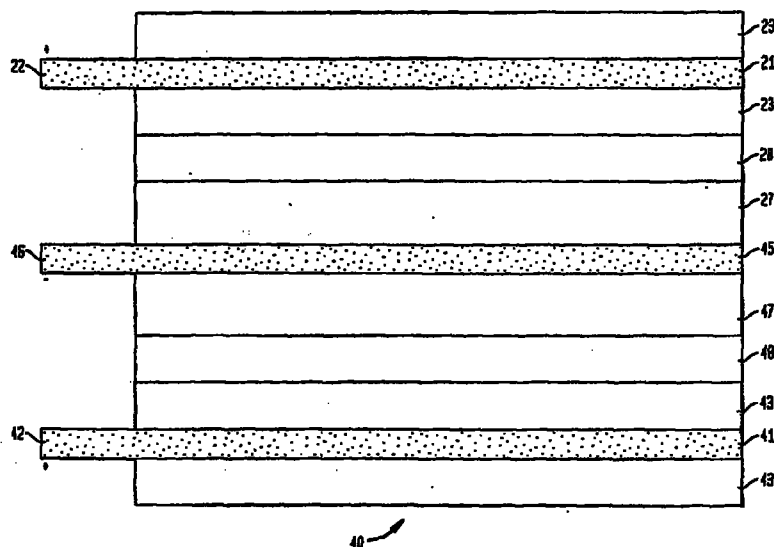




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(54) Title: SUPERCAPACITOR STRUCTURE AND METHOD OF MAKING SAME



(57) Abstract

Supercapacitor cell electrode (23, 27) and separator (48) elements formulated as membranes of plasticized polymeric matrix compositions are laminated with electrically conductive current collector elements (21) to form flexible, unitary supercapacitor structures. The matrix plasticizer component is extracted from the laminate with polymer-inert solvent and replaced with electrolyte solution to activate the supercapacitor. Various arrangements of cell structure elements provide parallel and series cell structures which yield improved specific energy capacity and increased voltage output for utilization demands. The supercapacitor elements may also be laminated with similar polymeric rechargeable battery cell structures (41, 43, 45, 47, 45) to provide hybrid devices capable of delivering both high energy and high power as needed in electronic systems.