

KOREAN PATENT ABSTRACTS

(11) Publication number: 20030036725 A

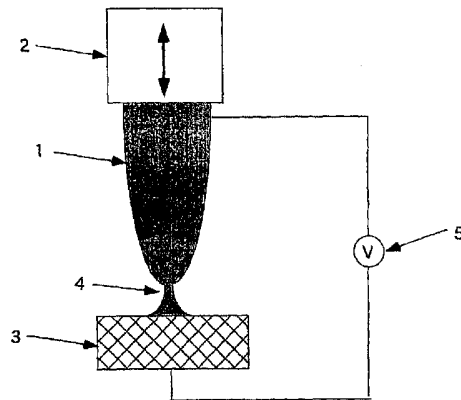
(43) Date of publication of application: 09.05.2003

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(30) Priority:	2000 2000265344 JP 01.09.2000		
(51) Int. Cl.:	H01L 21/60 (2006.01);		

(54) ELECTRONIC DEVICE HAVING CONTROLLABLE CONDUCTANCE

(57) Abstract:

An electronic device comprising a first electrode made of a mixture conductor material having ion conductivity and electron conductivity and a second electrode made of a conductive material, in which a voltage is so applied between the first and second electrodes that the first electrode is negative with respect to the second electrode and thereby mobile ions are moved from the first electrode to the second one to form a bridge between the electrodes. Preferably the mixture conductor material is Ag₂S, Ag₂ Se, Cu₂S, or Cu₂Se. An interelectrode conductance control method is also disclosed which comprises at least one step of the steps of applying a voltage in such a way that the potential of the second electrode is negative with respect to that of the first electrode so as to move mobile ions from the first electrode to the second electrode and thereby to form a bridge between the electrodes and thinning or cutting the bridge by inverting the polarity of the voltage between the electrodes.



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