

Title (en)
MEMORY WITH TUNNEL BARRIER AND METHOD FOR READING AND WRITING INFORMATION FROM AND TO THIS MEMORY

Title (de)
SPEICHER MIT TUNNELBARRIERE SOWIE VERFAHREN ZUM SCHREIBEN UND AUSLESEN VON INFORMATION IN DIESEM SPEICHER

Title (fr)
MÉMOIRE COMPRENANT UNE BARRIÈRE TUNNEL ET PROCÉDÉ D'ÉCRITURE ET DE LECTURE D'INFORMATIONS DANS CETTE MÉMOIRE

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Application
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Abstract (en)
[origin: WO2009140936A1] The invention provides a resistive memory which contains a tunnel barrier. The tunnel barrier is in contact with a memory material which has a memory property that can be varied by means of a write-signal. A change to the memory property has a powerful effect on the tunnel resistance due to the exponential dependence of the tunnel resistance on the parameters of the tunnel barrier, so that the information saved in the memory material can be read out. As memory layer for example, a solid state electrolyte (ion conductor) is suitable, the ions of which can be moved by the write signal relative to the interface with the tunnel barrier. But the memory layer can also be an additional tunnel barrier, for example, the tunnel resistance of which is variable by means of the write signal, for example, by displacement of a metal layer present in this tunnel barrier. The invention also provides a method for saving and reading information to and from a memory.

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