Title (en)

MEMORY CELL THAT EMPLOYS A SELECTIVELY GROWN REVERSIBLE RESISTANCE-SWITCHING ELEMENT AND METHODS OF FORMING THE SAME

Title (de)

SPEICHERZELLE MIT REVERSIBLEM, SELEKTIV GEZOGENEM WIDERSTANDSSCHALTELEMENT UND VERFAHREN ZUR BILDUNG DERSELBEN

Title (fr)

CELLULE DE MÉMOIRE UTILISANT UN ÉLÉMENT DE COMMUTATION DE RÉSISTANCE RÉVERSIBLE À CROISSANCE SÉLECTIVE ET PROCÉDÉS DE FORMATION CORRESPONDANTS

Publication

EP 2162917 A1 20100317 (EN)

Application

EP 08768806 A 20080627

Priority

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- US 77208207 A 20070629

Abstract (en)

[origin: WO2009005699A1] A method of forming a memory cell is provided that includes (1) forming a first conductor (206) above a substrate; (2) forming a reversible resistance-switching element (202) above the first conductor using a selective growth process; (3) forming a diode (204) above the first conductor; and (4) forming a second conductor (208) above the diode and the reversible resistance-switching element so as to obtain a crosspoint memory device. The switching element can also be steered by a TFT. The switching element contains a difficult to etch material, e.g. TiO_2, and is formed without etching this material by means of oxidising another material, e.g. Ti or TiN.

IPC 8 full level

H01L 21/822 (2006.01); **H01L 27/06** (2006.01); **H01L 27/10** (2006.01); **H01L 27/102** (2006.01); **H01L 27/24** (2006.01); **H01L 45/00** (2006.01)

CPC (source: EP KR)

H01L 27/101 (2013.01 - EP KR); **H01L 27/102** (2013.01 - EP KR); **H01L 27/1021** (2013.01 - KR); **H10B 63/20** (2023.02 - EP KR); **H10B 63/30** (2023.02 - EP); **H10B 63/84** (2023.02 - EP); H01L 27/1021 (2013.01 - EP); H10N 70/028 (2023.02 - EP); H10N 70/20 (2023.02 - EP); H10N 70/826 (2023.02 - EP); H10N 70/883 (2023.02 - EP); H10N 70/8833 (2023.02 - EP)

Citation (search report)

See references of WO 2009005699A1

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