

Title (en)

P-I-N DIODE CRYSTALLIZED ADJACENT TO A SILICIDE IN SERIES WITH A DIELECTRIC ANTIFUSE AND METHODS OF FORMING THE SAME

Title (de)

AN EIN SILIZID ANGRENZEND KRISTALLISIERTE PIN-DIODE MIT EINER DIELEKTRISCHEN ANTISCHMELZVERBINDUNG UND BILDUNGSVERFAHREN DAFÜR

Title (fr)

DIODE P-I-N CRISTALLISÉE CONTIGUË À UN SILICIURE EN SÉRIE AVEC UN ANTIFUSIBLE DIÉLECTRIQUE ET SON PROCÉDÉ DE FORMATION

Publication

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Application

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Abstract (en)

[origin: WO2008060543A2] A method is described for forming a nonvolatile one-time-programmable memory cell having reduced programming voltage. A contiguous p-i-n diode is paired with a dielectric rupture antifuse formed of a high-dielectric-constant material, having a dielectric constant greater than about 8. In preferred embodiments, the high-dielectric-constant material is formed by atomic layer deposition. The diode is preferably formed of deposited low- defect semiconductor material, crystallized in contact with a suicide. A monolithic three dimensional memory array of such cells can be formed in stacked memory levels above the wafer substrate.

IPC 8 full level

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