

Title (en)
SEMICONDUCTOR DEVICE INCLUDING A FLOATING GATE MEMORY CELL WITH A SUPERLATTICE CHANNEL AND ASSOCIATED METHODS

Title (de)
HALBLEITERBAUELEMENT MIT FLOATING-GATE-SPEICHERZELLE MIT EINEM ÜBERGITTERKANAL UND ENTSPRECHENDE VERFAHREN

Title (fr)
DISPOSITIF A SEMI-CONDUCTEUR COMPORTANT UNE CELLULE DE MEMOIRE A GRILLE FLOTTANTE AVEC UN CANAL DE SUPER-RESEAU ET PROCEDES ASSOCIES

Publication
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Application
EP 07761833 A 20070503

Priority

- US 2007068155 W 20070503
- US 38178706 A 20060505
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Abstract (en)
[origin: WO2007131117A1] A semiconductor device may include a semiconductor substrate (21) and at least one non- volatile memory cell. The at least one memory cell may include spaced apart source and drain regions (26,27), and a superlattice channel (25) including a plurality of stacked groups of layers on the semiconductor substrate between the source and drain regions. Each group of layers of the superlattice channel may include a plurality of stacked base semiconductor monolayers defining a base semiconductor portion and an energy band-modifying layer thereon, which may include at least one non-semiconductor monolayer constrained within a crystal lattice of adjacent base semiconductor portions. A floating gate (37) may be adjacent the superlattice channel, and a control gate (39) may be adjacent the second gate (38) insulating layer.

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