

Title (en)
SEMICONDUCTOR DEVICE INCLUDING A SUPERLATTICE AND PROVIDING REDUCED GATE LEAKAGE AND ASSOCIATED METHODS

Title (de)
HALBLEITERBAUELEMENT MIT EINEM ÜBERGITTER UND MIT VERRINGERTEM GATE-LECKEN UND ZUGEHÖRIGE VERFAHREN

Title (fr)
DISPOSITIF À SEMI-CONDUCTEURS COMPRENANT UN SUPER-RÉSEAU ET FOURNISSANT UNE FUITE DE GRILLE RÉDUITE, ET PROCÉDÉS ASSOCIÉS

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EP 4139964 A1 20230301 (EN)

Application
EP 21737867 A 20210610

Priority
• US 202016898589 A 20200611
• US 202016898564 A 20200611
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Abstract (en)
[origin: WO2021252704A1] A semiconductor device may include a semiconductor substrate, and shallow trench isolation (STI) regions (70) in the semiconductor substrate defining an active region (71) therebetween in the semiconductor substrate, with the active region having rounded shoulders adjacent the STI regions with an interior angle of at least 125°. The semiconductor device may further include a superlattice (25) on the active region including stacked groups of layers, with each group of layers including stacked base semiconductor monolayers defining a base semiconductor portion, and at least one non-semiconductor monolayer constrained within a crystal lattice of adjacent base semiconductor portions. The semiconductor device may also include a semiconductor circuit on the substrate including the superlattice.

IPC 8 full level
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Citation (search report)
See references of WO 2021252704A1

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