

Title (en)
SEMICONDUCTOR DEVICE INCLUDING SUPERLATTICE WITH O18 ENRICHED MONOLAYERS AND ASSOCIATED METHODS

Title (de)
HALBLEITERBAUELEMENT MIT ÜBERGITTER MIT O18-ANGEREICHERTEN MONOSCHICHTEN UND ZUGEHÖRIGE VERFAHREN

Title (fr)
DISPOSITIF À SEMI-CONDUCTEUR COMPRENANT UN SUPER-RÉSEAU QUI COMPREND DES MONOCOUCHEES ENRICHIES EN O18 ET PROCÉDÉS ASSOCIÉS

Publication
EP 4331017 A1 20240306 (EN)

Application
EP 22735687 A 20220524

Priority

- US 202117330831 A 20210526
- US 202117330860 A 20210526
- US 2022030669 W 20220524

Abstract (en)
[origin: WO2022251173A1] A semiconductor device may include a semiconductor layer, and a superlattice adjacent the semiconductor layer and including stacked groups of layers. Each group of layers may include stacked base semiconductor monolayers defining a base semiconductor portion, and at least one oxygen monolayer constrained within a crystal lattice of adjacent base semiconductor portions. The at least one oxygen monolayer of a given group of layers may include an atomic percentage of 18O greater than 10 percent.

IPC 8 full level
H01L 29/15 (2006.01); **H01L 29/08** (2006.01); **H01L 29/10** (2006.01); **H01L 29/78** (2006.01)

CPC (source: EP)
H01L 29/0847 (2013.01); **H01L 29/1054** (2013.01); **H01L 29/152** (2013.01); **H01L 29/7833** (2013.01); **H01L 29/165** (2013.01); **H01L 29/41783** (2013.01); **H01L 29/665** (2013.01); **H01L 29/66628** (2013.01)

Citation (search report)
See references of WO 2022251173A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
WO 2022251173 A1 20221201; EP 4331017 A1 20240306; TW 202249276 A 20221216; TW I812186 B 20230811

DOCDB simple family (application)
US 2022030669 W 20220524; EP 22735687 A 20220524; TW 111115599 A 20220425