

Title (en)

TWO-DIMENSIONAL ELECTRON GAS FIELD-EFFECT TRANSISTOR, ASSOCIATED COMPONENT AND METHODS

Title (de)

ZWEIDIMENSIONALER ELEKTRONENGASFELDEFFEKTTRANSISTOR, ZUGEHÖRIGE KOMPONENTE UND VERFAHREN

Title (fr)

TRANSISTOR À EFFET DE CHAMP À GAZ D'ÉLECTRONS BIDIMENSIONNEL, COMPOSANT ET PROCÉDÉS ASSOCIÉS

Publication

EP 3646388 A1 20200506 (FR)

Application

EP 18733285 A 20180628

Priority

- FR 1755935 A 20170628
- EP 2018067393 W 20180628

Abstract (en)

[origin: WO2019002453A1] The invention concerns a two-dimensional electron gas field-effect transistor (10) comprising: - a drain (14), - a source (16), - a heterojunction (22) comprising: - a first planar layer (26), the first layer (26) being produced from a first material and comprising a first sub-layer (28) formed by acceptor impurities, and - a second planar layer (30), the second layer (30) being produced from a second material and comprising a second sub-layer (32) formed by donor impurities, - a control unit (18) for controlling the current between the drain (14) and the source (16), the control unit (18) being a magnetic field applicator (34) perpendicular to the layers.

IPC 8 full level

H01L 29/82 (2006.01); **G01R 33/06** (2006.01); **H01L 29/205** (2006.01); **H01L 43/08** (2006.01)

CPC (source: EP)

G01R 33/06 (2013.01); **G01R 33/07** (2013.01); **H01L 29/82** (2013.01); **H10N 52/101** (2023.02); **H01L 29/205** (2013.01)

Citation (search report)

See references of WO 2019002453A1

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

DOCDB simple family (publication)

WO 2019002453 A1 20190103; EP 3646388 A1 20200506; FR 3068512 A1 20190104; FR 3068512 B1 20190816

DOCDB simple family (application)

EP 2018067393 W 20180628; EP 18733285 A 20180628; FR 1755935 A 20170628