

Title (en)

DETECTOR FOR DETECTING ELECTROMAGNETIC RADIATION

Title (de)

DETEKTOR ZUR ERKENNUNG VON ELEKTROMAGNETISCHER STRAHLUNG

Title (fr)

DÉTECTEUR SERVANT À DÉTECTER UN RAYONNEMENT ÉLECTROMAGNÉTIQUE

Publication

EP 3335248 A1 20180620 (EN)

Application

EP 15748250 A 20150811

Priority

EP 2015068425 W 20150811

Abstract (en)

[origin: WO2017025130A1] The invention refers to an detector for detecting electromagnetic radiation with a high sensitivity. The detector is comprising a substrate (3), a conducting layer (1) which is confining a two-dimensional charge carrier gas, a dielectric layer (4) lying on the conducting layer, at least two electric contacts (2a, 2b) being electrically connected with the conducting layer and at least one top gate contact (5) covering a part of the dielectric layer, wherein the top gate contact is comprising a first section (5 a) and a second section (5b) which are connected with each other by a bridge section (5 c) having a minimum width (d) smaller than the width (D) of the first and second sections. The bridge section thereby is forming a constricted portion of the top gate contact, which is defining a quantum point contact (QPC) in the conducting layer when the top gate contact is electrically biased with respect to the conducting layer.

IPC 8 full level

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Citation (search report)

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