

Title (en)

MULTILAYER PHOTORECEPTOR DEVICE, LAYERS OF WHICH HAVE DIFFERENT LATTICE PARAMETERS

Title (de)

MEHRSCHICHTIGE FOTOREZEPTORVORRICHTUNG MIT SCHICHTEN MIT UNTERSCHIEDLICHEN GITTERPARAMETERN

Title (fr)

DISPOSITIF PHOTORÉCEPTEUR MULTICOUCHE, À PARAMÈTRES DE MAILLE DIFFÉRENTS

Publication

**EP 3446328 A1 20190227 (FR)**

Application

**EP 17716935 A 20170418**

Priority

- FR 1653419 A 20160418
- EP 2017059146 W 20170418

Abstract (en)

[origin: WO2017182450A1] The invention relates to a photoreceptor device, including at least: a first crystalline semiconductor (11) having a first lattice parameter; and a second crystalline semiconductor, deposited on the first semiconductor, and having a second lattice parameter that is different from the first lattice parameter. In particular: the device includes an interface layer (12) between the first and second semiconductors, said layer being made from an amorphous material and structured to include apertures that are regularly spaced in the plane of the layer; the second semiconductor includes protuberances that extend out of the apertures of the interface layer and that form separate crystal grains (10), each grain having a plurality of facets making at least one angle therebetween; the interface layer is made from an insulator and is of thickness smaller than 10 nm in order to form a tunnel junction between the first and second semiconductors.

IPC 8 full level

**H01L 21/02** (2006.01); **H01L 31/036** (2006.01); **H01L 31/0725** (2012.01)

CPC (source: EP US)

**H01L 21/02381** (2013.01 - EP US); **H01L 21/02433** (2013.01 - EP US); **H01L 21/02546** (2013.01 - EP US); **H01L 21/02639** (2013.01 - EP US); **H01L 21/02645** (2013.01 - EP US); **H01L 31/02167** (2013.01 - EP US); **H01L 31/0304** (2013.01 - US); **H01L 31/036** (2013.01 - EP US); **H01L 31/0687** (2013.01 - EP US); **H01L 31/0725** (2013.01 - EP US); **H01L 31/076** (2013.01 - EP US); **H01L 31/18** (2013.01 - EP US); **Y02E 10/544** (2013.01 - EP); **Y02E 10/548** (2013.01 - EP); **Y02P 70/50** (2015.11 - EP)

Citation (search report)

See references of WO 2017182450A1

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**FR 3050322 A1 20171020**; **FR 3050322 B1 20190125**; CN 109844903 A 20190604; EP 3446328 A1 20190227; US 2019115488 A1 20190418; WO 2017182450 A1 20171026

DOCDB simple family (application)

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