

Title (en)

METHOD FOR MANUFACTURING A PHOTOVOLTAIC CELL

Title (de)

VERFAHREN ZUR HERSTELLUNG EINER PHOTOVOLTAIKZELLE

Title (fr)

PROCÉDÉ DE FABRICATION D'UNE CELLULE PHOTOVOLTAÏQUE

Publication

**EP 4022688 A1 20220706 (FR)**

Application

**EP 20757928 A 20200825**

Priority

- FR 1909500 A 20190829
- EP 2020073739 W 20200825

Abstract (en)

[origin: WO2021037846A1] Said method comprises the steps of: a) providing a structure comprising: - a crystalline silicon-based substrate (1); - a first dielectric layer (2) which comprises boron atoms and is formed on the first surface (10) of the substrate (1); - a tunnel oxide film (3) formed on the second surface (11) of the substrate; - a polysilicon layer (4) formed on the tunnel oxide film (3); - a second dielectric layer (5) which comprises phosphorus and/or arsenic atoms and is formed on the polysilicon layer (4); b) applying heat treatment to the structure so as to: - diffuse the boron atoms under the first surface (10) of the substrate (1) so as to form a first doped semiconductor region (100); - diffuse the phosphorus and/or arsenic atoms in the polysilicon layer (4) so as to dope the polysilicon layer (4).

IPC 8 full level

**H01L 31/068** (2012.01); **H01L 21/225** (2006.01); **H01L 31/0216** (2014.01); **H01L 31/0288** (2006.01); **H01L 31/0368** (2006.01);  
**H01L 31/18** (2006.01)

CPC (source: EP)

**H01L 31/0288** (2013.01); **H01L 31/03682** (2013.01); **H01L 31/068** (2013.01); **H01L 31/1804** (2013.01); **H01L 31/1864** (2013.01);  
**H01L 21/2254** (2013.01); **H01L 31/02167** (2013.01); **Y02E 10/546** (2013.01); **Y02E 10/547** (2013.01); **Y02P 70/50** (2015.11)

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 2021037846 A1 20210304**; CN 114303252 A 20220408; CN 114303252 B 20240716; EP 4022688 A1 20220706; FR 3100381 A1 20210305;  
FR 3100381 B1 20210820

DOCDB simple family (application)

**EP 2020073739 W 20200825**; CN 202080060011 A 20200825; EP 20757928 A 20200825; FR 1909500 A 20190829