

Title (en)

METHOD FOR DOPING A SEMICONDUCTOR SUBSTRATE, AND SOLAR CELL HAVING TWO-STAGE DOPING

Title (de)

VERFAHREN ZUR DOTIERUNG EINES HALBLEITERSUBSTRATS UND SOLARZELLE MIT ZWEISTUFIGER DOTIERUNG

Title (fr)

PROCÉDÉ DE DOPAGE D'UN SUBSTRAT SEMI-CONDUCTEUR ET CELLULE PHOTOVOLTAÏQUE À DOPAGE EN DEUX ÉTAPES

Publication

**EP 2543076 A2 20130109 (DE)**

Application

**EP 11711262 A 20110303**

Priority

- DE 102010010813 A 20100309
- DE 102010010221 A 20100303
- DE 2011075033 W 20110303

Abstract (en)

[origin: WO2011107092A2] The invention relates to a method for doping a semiconductor substrate (50), wherein the semiconductor substrate (50) is heated by irradiation (14) with laser radiation (60) and at the same time dopant from a dopant source (54) is diffused (16) into the semiconductor substrate (50) in heated regions (52), and wherein when the semiconductor substrate (50) is heated by the irradiation (14) with laser radiation (60), a surface portion of the semiconductor substrate (50) that is less than 10% of the total surface of all irradiated regions (62) is melted (18) and recrystallized (20). The invention further relates to a solar cell.

IPC 8 full level

**H01L 31/0224** (2006.01); **H01L 31/068** (2012.01); **H01L 31/18** (2006.01)

CPC (source: EP KR US)

**H01L 31/0224** (2013.01 - KR); **H01L 31/04** (2013.01 - KR); **H01L 31/068** (2013.01 - EP US); **H01L 31/18** (2013.01 - KR); **H01L 31/1804** (2013.01 - EP US); **H01L 31/1872** (2013.01 - EP US); **H01L 21/02587** (2013.01 - EP US); **H01L 21/02675** (2013.01 - EP US); **H01L 21/268** (2013.01 - EP US); **Y02E 10/547** (2013.01 - EP US); **Y02P 70/50** (2015.11 - EP US)

Citation (search report)

See references of WO 2011107092A2

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

DOCDB simple family (publication)

**DE 102010010813 A1 20110908**; CN 103038898 A 20130410; EP 2543076 A2 20130109; KR 20130021365 A 20130305; US 2013014819 A1 20130117; WO 2011107092 A2 20110909; WO 2011107092 A3 20120112

DOCDB simple family (application)

**DE 102010010813 A 20100309**; CN 201180022388 A 20110303; DE 2011075033 W 20110303; EP 11711262 A 20110303; KR 20127025822 A 20110303; US 201113582499 A 20110303