

Title (en)

MULTI-JUNCTION SOLAR CELL, METHODS FOR THE PRODUCTION THEREOF, AND USES THEREOF

Title (de)

MEHRFACHSOLARZELLE, VERFAHREN ZU DEREN HERSTELLUNG UND VERWENDUNGEN HIERVON

Title (fr)

CELLULE SOLAIRE À MULTI-JONCTION, PROCÉDÉ DE FABRICATION ET UTILISATIONS

Publication

EP 2954559 A1 20151216 (DE)

Application

EP 14703396 A 20140210

Priority

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- EP 2014052552 W 20140210

Abstract (en)

[origin: WO2014122308A1] The invention relates to a multi-junction solar cell having at least three p-n junctions, which contains a back-side sub-cell having at least one p-n junction and containing GaSb and a front-side sub-cell having at least two p-n junctions and which is characterised in that the back-side sub-cell has a lattice constant that is greater than the lattice constant of the front-side sub-cell by $\geq 2\%$, in particular by $> 4\%$, and the two sub-cells are connected to one another by means of an optically transparent and electrically conductive wafer-bond connection. The multi-junction solar cell achieves high absorption up to the band gap energy of the bottommost sub-cell containing GaSb and a photovoltage that is increased in comparison with multi-junction solar cells of the prior art. The invention further relates to methods for producing the multi-junction solar cell according to the invention and uses of the multi-junction solar cell according to the invention.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

See references of WO 2014122308A1

Citation (examination)

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