

Title (en)
SOLAR CELL AND METHOD FOR THE PRODUCTION OF A SOLAR CELL

Title (de)
SOLARZELLE UND VERFAHREN ZUR HERSTELLUNG EINER SOLARZELLE

Title (fr)
CELLULE SOLAIRE ET PROCÉDÉ DE FABRICATION DE CELLULE SOLAIRE

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Application
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Abstract (en)
[origin: WO2023083418A1] The invention relates to a solar cell comprising - a substrate (1) having a front side (11) and a rear side (12) and a plurality of edges (13) extending between the front side (11) and rear side (12), - a conductive front-side layer (2), which is arranged on a surface of the front side (11), - a front-side electrode (14), which is arranged on the front side (11) and is electrically connected to the conductive front-side layer (2), - a highly doped rear-side layer (7), which is arranged on a surface of the rear side (12), - a tunnel layer (4), which is arranged on the highly doped rear-side layer (7), - a conductive rear-side layer (5), which is arranged on the highly doped rear-side layer (7) and the tunnel layer (4), - a rear-side electrode (15), which is arranged on the rear side (12) and is electrically connected to the conductive rear-side layer (5), - an insulation portion (16), which is formed adjacent to the surface of the front side (11) and on the edges (13) adjacent to the surface of the front side (11). A rear-side layer assembly, comprising the highly doped rear-side layer (7), the tunnel layer (4) and the conductive rear-side layer (5), is recessed in the insulation portion (16) so that electrical contact between the highly doped rear-side layer (7) and the conductive front-side layer (2) is structurally prevented. The invention also relates to a method for producing a solar cell from a solar cell semi-finished product that is subjected to a plurality of etching steps in order to produce the insulation portion (16).

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