

Title (en)

METHOD FOR FORMING THIN SEMICONDUCTOR SUBSTRATES FOR PRODUCING SOLAR CELLS

Title (de)

VERFAHREN ZUM BILDEN VON DÜNNEN HALBLEITERSCHICHTSUBSTRATEN ZUM HERSTELLEN VON SOLARZELLEN

Title (fr)

PROCÉDÉ POUR FORMER DES SUBSTRATS DE COUCHES MINCES SEMI-CONDUCTRICES POUR LA FABRICATION DE PILES SOLAIRES

Publication

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Application

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Abstract (en)

[origin: WO2011058106A2] The invention relates to a method for forming thin semiconductor substrates for producing solar cells, wherein alternately low-macroporous layers (33, 37) and layers (35, 39) etched clear can be designed by electrochemical etching in a provided semiconductor substrate (1). The layers (35, 39) etched clear separate adjoining macroporous layers (33, 37), such that said layers are preferably designed to be self-supporting. An edge region (3) of the semiconductor substrate (1), which surrounds the macroporous layers (33, 37) at least partially, is left unetched and is thus used for the mechanical stabilization of the enclosed, low-macroporous layers (33, 37) connected thereto. The multi-layer stack yielded in this way can then be subjected in a joint fluid method stop collectively to further processing steps, for example coated with a passivating oxide. Thereafter, the macroporous layers can be successively separated from the stabilizing edge region (3) of the semiconductor substrate, wherein a mechanical connection between the macroporous layer (33) and the non-porous edge region (3) is interrupted. Before the respectively uppermost layer is torn off, unilaterally acting processes can be employed. Using few process steps, in this way a plurality of thin semiconductor layer substrates in the form of macroporous layers (33, 37) can be formed, including good surface passivation and a reflection-reducing surface texture.

IPC 8 full level

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