

Title (en)

SOLAR CELL HAVING A THIN FILM SILICON MULTIPLE LAYER STRUCTURE

Title (de)

SOLARZELLE MIT EINER MEHRSCICHTIGEN SILIZIUM-DÜNNFILMSTRUKTUR

Title (fr)

CELLULE SOLAIRE POSSEDANT UNE STRUCTURE DE COUCHES MINCES MULTIPLES EN SILICIUM

Publication

EP 0826242 A1 19980304 (EN)

Application

EP 96911113 A 19960423

Priority

- NL 9600177 W 19960423
- NL 1000264 A 19950501

Abstract (en)

[origin: WO9635235A1] Solar cell, comprising at least three substantially thin film parallel silicon layers, stacked upon each other, and at least two conductors providing an electrical contact with at least two of said layers, said conductors extending in a direction substantially transverse with respect to said layers, wherein the thin film layers are provided by amorphous silicon of the p-type (p-Si), intrinsic amorphous silicon (i-Si) and amorphous silicon of the n-type (n-Si) respectively, in the order given by the formula (I): p-Si, (i-Si, n-Si, i-Si, p-Si)_x, i-Si, n-Si, where preferably $0 < x < 5$, the amorphous silicon is hydrogenated in a concentration in the range of about 1 at.% - about 10 at.% relative to Si, preferably in a concentration of about 1 at.% relative to Si, one of said conductors provides an electrical contact with each of said p-Si layers and the other of said conductors provides an electrical contact with each of said n-Si layers. A certain amount of crystalline silicon of the p-type is provided within a p-Si layer, and a certain amount of crystalline silicon of the n-type is provided within an n-Si layer.

IPC 1-7

H01L 27/142; **H01L 31/0224**

IPC 8 full level

H01L 27/142 (2006.01); **H01L 31/0224** (2006.01); **H01L 31/046** (2014.01); **H01L 31/0465** (2014.01); **H01L 31/075** (2006.01); **H01L 31/076** (2012.01)

CPC (source: EP)

H01L 31/022425 (2013.01); **H01L 31/046** (2014.12); **H01L 31/0465** (2014.12); **H01L 31/076** (2013.01); **Y02E 10/548** (2013.01)

Citation (search report)

See references of WO 9635235A1

Designated contracting state (EPC)

AT BE CH DE DK ES FI FR GB GR IE IT LI LU NL PT SE

DOCDB simple family (publication)

WO 9635235 A1 19961107; AU 5409496 A 19961121; EP 0826242 A1 19980304; NL 1000264 C2 19961104; TW 280951 B 19960711

DOCDB simple family (application)

NL 9600177 W 19960423; AU 5409496 A 19960423; EP 96911113 A 19960423; NL 1000264 A 19950501; TW 84104368 A 19950502