

Title (en)
SOLAR MODULE AND ITS PRODUCTION PROCESS

Title (de)
SOLARMODUL UND DESSEN HERSTELLUNGSVERFAHREN

Title (fr)
MODULE SOLAIRE ET SON PROCESSUS DE FABRICATION

Publication
EP 2898540 A1 20150729 (EN)

Application
EP 13762819 A 20130913

Priority
• EP 12185495 A 20120921
• EP 2013069071 W 20130913
• EP 13762819 A 20130913

Abstract (en)
[origin: EP2711990A1] The present invention relates to a solar module comprising a front sheet (30), an amorphous silicon photoelectric device (32) comprising at least a transparent front electrode layer (34), a p-type doped silicon layer (36), an intrinsic silicon layer (38), a n-type doped silicon layer (40), and a transparent back electrode layer (42), a back reflector (44), and a back sheet (46). The intrinsic silicon layer (38) of the amorphous silicon photoelectric device (32) has a thickness comprised between 50 nm and 300 nm, and preferably comprised between 100 nm and 200 nm. Moreover, the solar module further comprises, between the amorphous silicon photoelectric device (32) and the back reflector (44), a colored encapsulant layer (48) which comprises a coloring agent chosen in such a way that the solar module has a color within a region defined by an x value of 0.15 to 0.75 and a y value of 0.10 to 0.70, and preferably defined by an x value of 0.28 to 0.65 and a y value of 0.20 to 0.50, in a chromaticity diagram of a CIE 1931 Yxy color system. Such solar modules have a uniform terracotta color similar to the color of traditional roof tiles and can be easily incorporated into the architecture of the buildings.

IPC 8 full level
H01L 31/0376 (2006.01); **H01L 31/048** (2014.01); **H01L 31/052** (2014.01); **H01L 31/075** (2012.01); **H01L 31/20** (2006.01)

CPC (source: CN EP)
H01L 31/03762 (2013.01 - CN EP); **H01L 31/0488** (2013.01 - CN EP); **H01L 31/056** (2014.12 - EP); **H01L 31/075** (2013.01 - CN EP); **H01L 31/202** (2013.01 - CN EP); **H02S 20/23** (2014.12 - EP); **Y02B 10/10** (2013.01 - EP); **Y02E 10/52** (2013.01 - EP); **Y02E 10/548** (2013.01 - EP); **Y02P 70/50** (2015.11 - EP)

Citation (search report)
See references of WO 2014044620A1

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2711990 A1 20140326; CN 104718628 A 20150617; EP 2898540 A1 20150729; WO 2014044620 A1 20140327

DOCDB simple family (application)
EP 12185495 A 20120921; CN 201380048927 A 20130913; EP 13762819 A 20130913; EP 2013069071 W 20130913