

Title (en)
ARRANGEMENT COMPRISING A SOLAR CELL AND AN INTEGRATED BYPASS DIODE

Title (de)
ANORDNUNG MIT SOLARZELLE UND INTEGRIERTER BYPASS-DIODE

Title (fr)
DISPOSITIF COMPRENANT UNE PILE SOLAIRE ET UNE DIODE DE DERIVATION INTEGREE

Publication
EP 1815521 A1 20070808 (DE)

Application
EP 05815533 A 20051103

Priority
• DE 2005001985 W 20051103
• DE 102004055225 A 20041116

Abstract (en)
[origin: WO2006053518A1] The current invention concerns an arrangement comprising at least one solar cell, which is formed by a first sequence (1, 2, 11, 12) of differently doped layers on a substrate (6, 16), and at least one bypass diode, which is connected to the solar cell, in particular in a monolithic, series-connected solar module. The arrangement is characterised in that the bypass diode is formed by a second layer sequence (4, 5, 13, 14), which is arranged between the substrate and the first layer sequence (1, 2, 11, 12). With the current arrangement it is possible to form monolithic, series-connected solar modules in which the solar cells are protected by bypass diodes, with only a very slight loss of active receiving surface.

IPC 8 full level
H01L 27/142 (2006.01)

CPC (source: EP US)
H01L 27/1421 (2013.01 - EP US); **H01L 31/0475** (2014.12 - EP US); **H01L 31/0693** (2013.01 - EP US); **Y02E 10/544** (2013.01 - EP US)

Citation (search report)
See references of WO 2006053518A1

Citation (examination)
• JP H0964397 A 19970307 - CANON KK
• BORDEN P G: "A MONOLITHIC SERIES-CONNECTED AL_{0.93}GA_{0.07}AS/GAAS SOLAR CELL ARRAY", CONFERENCE RECORD OF THE IEEE PHOTOVOLTAIC SPECIALISTS CONFERENCE, XX, XX, vol. 14TH, 7 January 1980 (1980-01-07), pages 554 - 562, XP009081940
• FATEMI N S ET AL: "InGaAs monolithic interconnected modules (MIMs)", CONFERENCE RECORD OF THE 26TH IEEE PHOTOVOLTAIC SPECIALISTS CONFERENCE 19970929; 19970929 - 19971003 NEW YORK, NY : IEEE, US, 29 September 1997 (1997-09-29), pages 799 - 804, XP010268013, ISBN: 978-0-7803-3767-1, DOI: 10.1109/PVSC.1997.654209
• DATABASE INSPEC [online] THE INSTITUTION OF ELECTRICAL ENGINEERS, STEVENAGE, GB; March 2008 (2008-03-01), LOECKENHOFF R ET AL: "Development, characterisation and 1000 suns outdoor tests of GaAs monolithic interconnected module (MIM) receivers", Database accession no. 9943491 & PROGRESS IN PHOTOVOLTAICS: RESEARCH AND APPLICATIONS JOHN WILEY & SONS LTD. UK, vol. 16, no. 2, pages 101 - 112, ISSN: 1062-7995, DOI: DOI:10.1002/PIP.778

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2006053518 A1 20060526; AU 2005306196 A1 20060526; AU 2005306196 B2 20110106; DE 102004055225 A1 20060601; DE 102004055225 B4 20140731; EP 1815521 A1 20070808; IL 183206 A0 20070819; IL 183206 A 20121031; US 2008128014 A1 20080605; US 7932462 B2 20110426

DOCDB simple family (application)
DE 2005001985 W 20051103; AU 2005306196 A 20051103; DE 102004055225 A 20041116; EP 05815533 A 20051103; IL 18320607 A 20070515; US 66775505 A 20051103