

Title (en)

MULTIPLE SOLAR CELL COMPRISING REAR-SIDE GERMANIUM SUBCELL AND USE THEREOF

Title (de)

MEHRFACHSOLARZELLE MIT RÜCKSEITIGER GERMANIUM-TEILZELLE UND DEREN VERWENDUNG

Title (fr)

CELLULE SOLAIRE MULTIPLE AVEC SOUS-CELLULE AU GERMANIUM AU DOS ET SON UTILISATION

Publication

EP 3571725 A1 20191127 (DE)

Application

EP 17826491 A 20171219

Priority

- DE 102017200700 A 20170118
- EP 2017083570 W 20171219

Abstract (en)

[origin: WO2018134016A1] The present invention relates to multiple solar cells comprising at least four pn junctions comprising a light-remote rear-side germanium subcell (1) and, arranged above the germanium subcell, at least three subcells (2, 2', 2'', 2''',...) composed of III-V compound semiconductors, wherein the multiple solar cells comprise at least one metamorphic buffer layer (3) and at least one wafer bond connection (4), and all layers arranged above the germanium subcell each contain a light-absorbing emitter and/or base layer containing at least 20% indium, relative to the sum of all group III atoms. Furthermore, the present invention relates to the use of said multiple solar cells in space.

IPC 8 full level

H01L 31/0687 (2012.01); **H01L 31/0304** (2006.01); **H01L 31/043** (2014.01); **H01L 31/0725** (2012.01); **H01L 31/078** (2012.01); **H01L 31/18** (2006.01)

CPC (source: EP US)

H01L 31/02008 (2013.01 - US); **H01L 31/02021** (2013.01 - US); **H01L 31/03046** (2013.01 - EP US); **H01L 31/043** (2014.12 - EP US); **H01L 31/0687** (2013.01 - EP US); **H01L 31/06875** (2013.01 - EP); **H01L 31/0725** (2013.01 - EP US); **H01L 31/078** (2013.01 - EP); **H01L 31/1844** (2013.01 - EP); **H01L 31/1852** (2013.01 - EP); **H01L 31/1892** (2013.01 - EP); **Y02E 10/544** (2013.01 - EP US); **Y02P 70/50** (2015.11 - EP)

Citation (search report)

See references of WO 2018134016A1

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)

DE 102017200700 A1 20180719; EP 3571725 A1 20191127; US 2019378948 A1 20191212; WO 2018134016 A1 20180726

DOCDB simple family (application)

DE 102017200700 A 20170118; EP 17826491 A 20171219; EP 2017083570 W 20171219; US 201716478386 A 20171219