

Title (en)  
PASSIVATING AND CONDUCTING LAYERED STRUCTURE FOR SOLAR CELLS

Title (de)  
PASSIVIERENDE UND LEITENDE SCHICHTSTRUKTUR FÜR SOLARZELLEN

Title (fr)  
STRUCTURE STRATIFIÉE DE PASSIVATION ET DE CONDUCTION POUR CELLULES SOLAIRES

Publication  
**EP 4289009 A1 20231213 (DE)**

Application  
**EP 21830934 A 20211215**

Priority  
• DE 102021000501 A 20210202  
• DE 2021000205 W 20211215

Abstract (en)  
[origin: WO2022167018A1] The invention relates to a layered structure for solar cells, preferably for high-temperature solar cells, having tunnel oxide-passivated contacts on the front side or on the front and back side of the solar cells consisting of at least one tunnel oxide layer, in particular a silicon oxide layer SiO<sub>x</sub> where x = 1-2 or an aluminum oxide layer AlO<sub>x</sub> where x = 1-2 and a μc-SiC<sub>x</sub>(n) layer, where x is 50.5, preferably ≥ 0.5 to 0.9, wherein (n) = n-doped and wherein in an advantageous embodiment μc-SiC<sub>x</sub>(n) is a hydrogenated μc-SiC<sub>x</sub>:H (n) layer. The layered structure according to the invention may preferably be configured as a front-side contact of a solar cell, preferably a high-temperature solar cell. The invention further relates to a process for producing the layered structure and to a solar cell containing the layered structure according to the invention as a front-side or as a front-side and back-side contact.

IPC 8 full level  
**H01L 31/0745** (2012.01); **H01L 31/0216** (2014.01); **H01L 31/0224** (2006.01); **H01L 31/0747** (2012.01); **H01L 31/18** (2006.01)

CPC (source: EP)  
**H01L 31/02167** (2013.01); **H01L 31/022425** (2013.01); **H01L 31/0745** (2013.01); **H01L 31/0747** (2013.01); **H01L 31/1864** (2013.01); **H01L 31/1868** (2013.01)

Citation (search report)  
See references of WO 2022167018A1

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

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**DE 102021000501 A1 20220804**; CN 116848645 A 20231003; EP 4289009 A1 20231213; WO 2022167018 A1 20220811

DOCDB simple family (application)  
**DE 102021000501 A 20210202**; CN 202180092347 A 20211215; DE 2021000205 W 20211215; EP 21830934 A 20211215