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- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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(54) Title: BACKPLANE REINFORCEMENT AND INTERCONNECTS FOR SOLAR CELLS

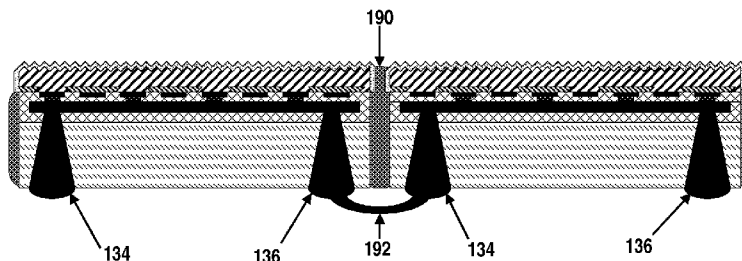


FIG. 10A

(57) Abstract: Fabrication methods and structures relating to backplanes for back contact solar cells that provide for solar cell substrate reinforcement and electrical interconnects are described. The method comprises depositing an interdigitated pattern of base electrodes and emitter electrodes on a backside surface of a semiconductor substrate, forming electrically conductive emitter plugs and base plugs on the interdigitated pattern, and attaching a backplane having a second interdigitated pattern of base electrodes and emitter electrodes at the conductive emitter and base plugs to form electrical interconnects.



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**A. CLASSIFICATION OF SUBJECT MATTER****H01L 31/042(2006.01)i, H01L 31/05(2006.01)i, H01L 31/18(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

H01L 31/042; H02N 6/00; B32B 27/04; H01L 29/04; B32B 38/10; H01L 31/04

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) &amp; Keywords: photovoltaic, solar, porous silicon, backplane, plug, laminating

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007-0074755 A1 (CHRIS EBERSPACHER et al.) 05 April 2007 See paragraphs [0022]-[0038]; and figures 3-6.	1-21
A	WO 2009-149850 A2 (BAYER MATERIALSCIENCE AG) 17 December 2009 See page 1, line 1 - page 10, line 18; and figure 1.	1-21
A	US 2010-0133546 A1 (AJAYKUMAR R. JAIN) 03 June 2010 See paragraphs [0032]-[0098]; and figures 1-16	1-21
A	WO 2008-136872 A2 (PAUL M. ADRIANI et al.) 13 November 2008 See paragraphs [0040]-[0113]; and figures 1-31.	1-21
A	US 4394529 A (RAJ N. GOUNDER) 19 July 1983 See column 3, line 62 - column 10, line 40; and figures 1-5.	1-21



Further documents are listed in the continuation of Box C.



See patent family annex.

\* Special categories of cited documents:

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"&amp;" document member of the same patent family


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