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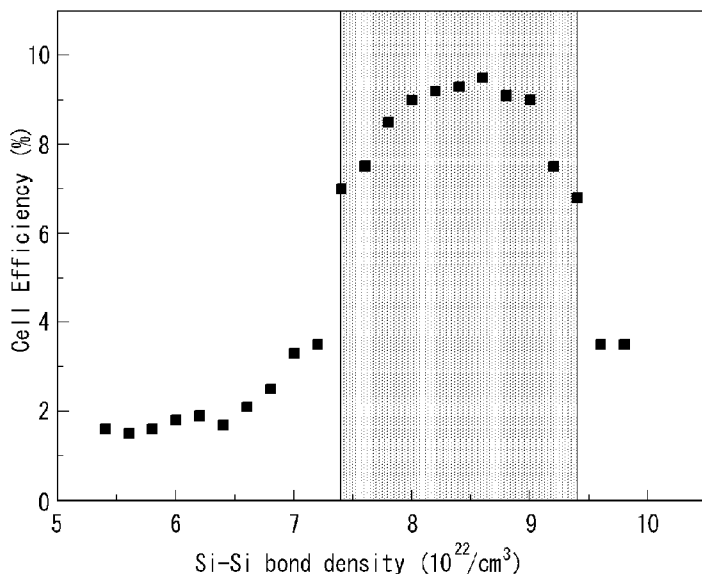
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[Continued on next page]

(54) Title: SOLAR CELL AND METHOD OF MANUFACTURING THE SAME

[Fig. 2]



(57) Abstract: A solar cell and a method of manufacturing the same are discussed. The solar cell includes an amorphous silicon layer, and a density of Si-Si bonds in the amorphous silicon layer is 7.48x10²² /cm³ to 9.4x10²²/cm³. The method includes forming an electrode on a substrate and depositing amorphous silicon on the substrate in an atmosphere in which a ratio of an amount of hydrogen (H₂) gas to an amount of silane (SiH₄) gas is 15:1 to 30:1 to form an amorphous silicon layer on the substrate.

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INTERNATIONAL SEARCH REPORT

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PCT/KR2010/000155**A. CLASSIFICATION OF SUBJECT MATTER****H01L 31/042(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; H01L 21/20; H01L 31/00; H01L 31/0368; H01L 31/0392; H01L 31/06

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) & Keywords: amorphous, silicon, bond, density, silane, gas ratio

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009-0020154 A1 (SHURAN SHENG et al.) 22 January 2009 See abstract, paragraphs [0008]-[0011], claims 1-9, 31 and 40.	1-18
A	US 4857115 A (MASAYUKI IWAMOTO et al.) 15 August 1989 See abstract, column 2 line 10 - column 4 line 50, figures 2 and 3.	1-18
A	US 5492142 A (KEIICHI SANO) 20 February 1996 See abstract, column 1 line 49 - column 2 line 27.	1-18
A	Z.E.SMITH et al., "Intrinsic dangling-bond density in hydrogenated amorphous silicon", Physical Review B, Vol. 32, No. 8, pages 5510-5513, 15 October 1985 See the whole documents.	1-18

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009-0020154 A1	22.01.2009	None	
US 4857115 A	15.08.1989	JP 63-182551 U	24.11.1988
US 5492142 A	20.02.1996	JP 06-097070 A US 5447889 A1	08.04.1994 05.09.1995