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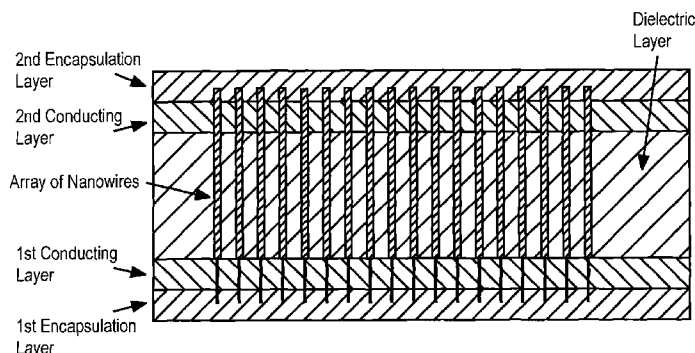


FIG. 34

(57) Abstract: Composite nanorod-based structures for generating electricity are disclosed. One embodiment is an article of manufacture that includes a first layer with an array of nano wires and a dielectric material. The nanowires include: a core semiconducting region with a first type of doping; a shell semiconducting region with a second type of doping; and a junction region between the core semiconducting region and the shell semiconducting region. The first type of doping is different from the second type of doping. The shell region length is less than the core region length. The shell semiconducting region surrounds a portion of the core semiconducting region over a length of the core semiconducting region corresponding to the junction region length. A second layer comprising a conducting material contacts the top surface of the first layer. A third layer comprising a conducting material contacts the bottom surface of the first layer.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC H01L 31/042

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 since 1975
Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
e-KIPASS(KIPO Internal); "nanowire", "semiconductor", "dielectric material"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 18-237313 A (MATSUSHITA ELECTRIC IND. CO. LTD.) 07 September 2006 see the abstract, claims 1-3, Figs. 1,8	1-20
A	JP 18-261386 A (MATSUSHITA ELECTRIC IND. CO. LTD.) 28 September 2006 see the abstract, claims 1-3,5, Figs.1,2,13	1-20
A	JP 17-216646 A (TAIKO DENKI CO. LTD.) 11 August 2005 see the abstract, claim 3, Fig.1	1-20

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

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JP 2006-237313 A	07.09.2006	NONE	
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