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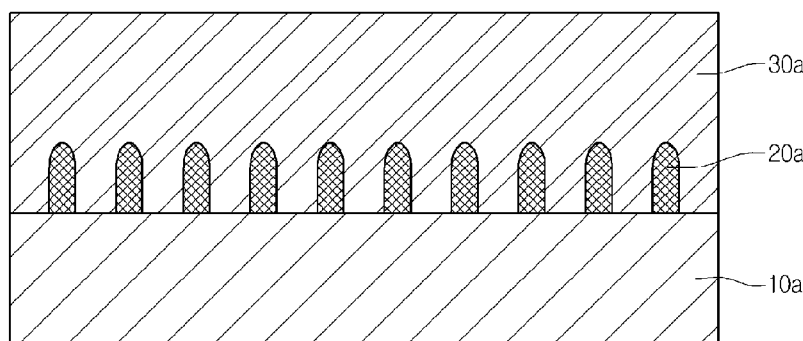
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(57) Abstract: A semiconductor device according to the embodiment comprises a base substrate; patterns on the base substrate; and an epitaxial layer on the base substrate, wherein the epitaxial layer is formed on a surface of the substrate exposed among the patterns. A method for growing a semiconductor crystal comprises the steps of cleaning a silicon carbide substrate; forming patterns on the silicon carbide substrate; and forming an epitaxial layer on the silicon carbide substrate.



A. CLASSIFICATION OF SUBJECT MATTER**H01L 21/20(2006.01)i**

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H01L 21/20; H01L 21/027; H01L 33/00; H01L 33/12

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: silicon carbide,SiC,base substrate,pattern,protrude,groove,trench,epitaxial,lateral,growth

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 10-2008-0006207 A (INDUSTRIAL COOPERATION FOUNDATION CHONBUK NATIONAL UNIVERSITY) 16 January 2008 See abstract; figures 1-7c; paragraphs [0032]-[0087]	1,2,5-10,20
A	KR 10-2007-0109695 A (SEOUL OPTO DEVICE CO., LTD.) 15 November 2007 See abstract; figures 2-5; paragraphs [0034]-[0037]	1-20
A	KR 10-2010-0034332 A (GWANGJU INSTITUTE OF SCIENCE AND TECHNOLOGY) 01 April 2010 See abstract; figures 3a-3e; paragraphs [0034]-[0040]	1-20
A	KR 10-2008-0088915 A (HYNIX SEMICONDUCTOR INC.) 06 October 2008 See abstract; figures 3a-3c; paragraphs [0023]-[0041]	1-20
E	WO 2012-102539 A2 (LG INNOTEK CO., LTD. et al.) 02 August 2012 See abstract; figures 2-5, 11-14; paragraphs [0025]-[0080]	1-4,7,8,10,20

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

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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
KR 10-2008-0006207 A	16.01.2008	None	
KR 10-2007-0109695 A	15.11.2007	None	
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KR 10-2008-0088915 A	06.10.2008	None	
WO 2012-102539 A2	02.08.2012	KR 10-1125327 B1 KR 10-1189376 B1 WO 2012-102539 A3	27.03.2012 09.10.2012 02.08.2012