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(54) Title: A METHOD FOR THE FABRICATION OF GaAs/Si AND RELATED WAFER BONDED VIRTUAL SUBSTRATES

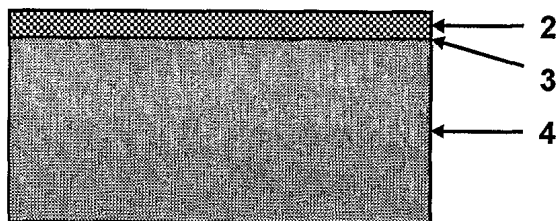


Figure 5b

(57) Abstract: A method of making a virtual substrate includes providing a device substrate (1) of a first material containing a device layer (2) of a second material different from the first material located over a first side of the device substrate, implanting ions (10) into the device substrate such that a damaged region (1b) is formed in the device substrate below the device layer, bonding the device substrate to a handle substrate (4), and separating at least a portion of the device substrate from the device layer bonded to the handle substrate along the damaged region to form a virtual substrate comprising the device layer bonded to the handle substrate.

**INTERNATIONAL SEARCH REPORT**

International application No.

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**A. CLASSIFICATION OF SUBJECT MATTER**

IPC: **H01L 21/30( 2006.01),21/46( 2006.01)**

USPC: 156/239,344;438/455,458

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)  
U.S. : 156/239,344,584;438/455,458

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

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

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,882,987 A (SRIKRISHNAN) 16 March 1999 (16.03.1999), column 3, lines 26-28, 42-47; column 4, lines 43-45, 49-50; column 5, lines 4-14, 24-40, 51-67.	1-4, 6-8, 10-13, 15, 21, 23-24, 26
X	US 2004/0072409 A1 (FITZGERALD et al.) 15 April 2004 (15.04.2004), paragraphs 0032, 0039, 0042.	1-8, 10-13, 15-16, 18, 21-24, 26
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Y		9, 14, 17, 19-20, 25
Y	US 6,562,127 B1 (KUD et al.) 13 May 2003 (13.05.2003), column 6, lines 22-39; column 11, lines 48-53; column 12, lines 12-20; column 13, lines 35-36.	9, 14, 17, 19-20, 25

Further documents are listed in the continuation of Box C.

See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means		
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