

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 June 2011 (09.06.2011)

PCT

(10) International Publication Number
WO 2011/069054 A3

- (51) International Patent Classification:
H01L 21/20 (2006.01)
- (21) International Application Number:
PCT/US2010/058869
- (22) International Filing Date:
3 December 2010 (03.12.2010)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/266,677 4 December 2009 (04.12.2009) US
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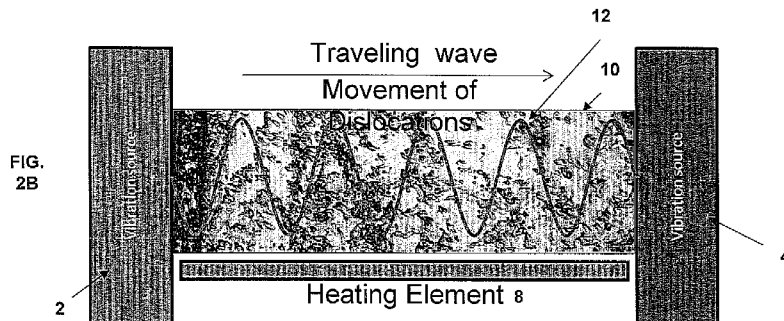
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(88) Date of publication of the international search report:
17 November 2011

(54) Title: PHONON-ENHANCED CRYSTAL GROWTH AND LATTICE HEALING



(57) Abstract: A system for modifying dislocation distributions in semiconductor materials is provided. The system includes one or more vibrational sources for producing at least one excitation of vibrational mode having phonon frequencies so as to enhance dislocation motion through a crystal lattice.

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A. CLASSIFICATION OF SUBJECT MATTER**H01L 21/20(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 21/20; H01L 21/268; B23K 31/00; H01L 21/22; H01L 21/425; H01L 21/309; G21B 3/00

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: vibration, annihilation, dislocation motion, phonon

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SHEINKMAN MOISEY K. et al., `Ultrasound Treatment As a New Way for Defect Engineering in Semiconductor Materials and Devices`, Semiconductor Conference, October 1998, CAS `98 Proceedings, Vol. 1, pp. 183-192. See abstract; page 183, left column, line 1-page 189, right column, line 23.	1-20
X	US 2005-0242066 A1 (EFIM STATNIKOV) 03 November 2005 See abstract; paragraphs [0100]-[0109]; and figures 12(a)-19(b).	1-20
A	JP 2001-338894 A (MATSUSHITA ELECTRIC IND. CO. LTD.) 07 December 2001 See abstract; paragraphs [0026]-[0028],[0035]; claims 1,2,6,11; and figures 1-2.	1-20
A	US 2007-0141817 A1 (LOJEK BOHUMIL et al.) 21 June 2007 See abstract; paragraphs [0017]-[0018]; and claims 1,2,5,10,13.	1-20
A	US 2009-0122940 A1 (BREED BEN R.) 14 May 2009 See abstract; and claim 1.	1-20
A	US 05997659A A (LISIANSKY; MICHAEL et al.) 07 December 1999 See abstract; and claim 1.	1-20

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

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"&" document member of the same patent family

Date of the actual completion of the international search

28 JULY 2011 (28.07.2011)

Date of mailing of the international search report

29 JULY 2011 (29.07.2011)

Name and mailing address of the ISA/KR

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Facsimile No. 82-42-472-7140

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/058869

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