(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
24 October 2013 (24.10.2013)

WIPO | PCT

(10) International Publication Number
WO 2013/158986 A3

(51) International Patent Classification:
H01L 29/861 (2006.01)

(21) International Application Number:
PCT/US2013/037358

(22) International Filing Date:
19 April 2013 (19.04.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/687,163 19 April 2012 (19.04.2012) 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, BN, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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:
12 December 2013

(54) Title: A METAL-SEMICONDUCTOR-METAL (MSM) HETEROJUNCTION DIODE

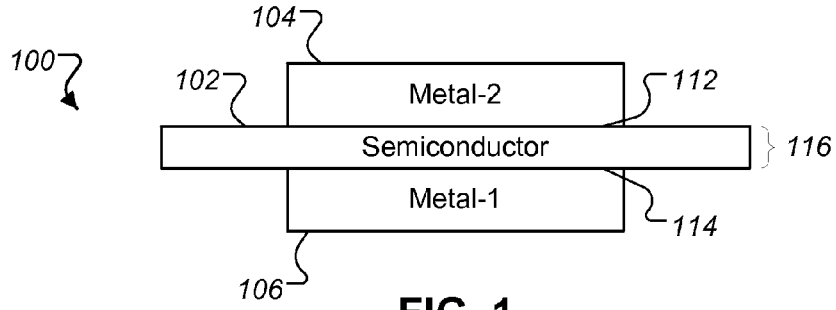

FIG. 1

(57) Abstract: In one aspect, a diode comprises: a semiconductor layer having a first side and a second side opposite the first side, the semiconductor layer having a thickness between the first side and the second side, the thickness of the semiconductor layer being based on a mean free path of a charge carrier emitted into the semiconductor layer; a first metal layer deposited on the first side of the semiconductor layer; and a second metal layer deposited on the second side of the semiconductor layer.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/037358

A. CLASSIFICATION OF SUBJECT MATTER

H01L 29/861(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 29/861; H01L 29/88; G01T 3/08; H01L 29/56; H01L 29/40; G01N 27/26; G01N 27/407; H01L 31/00; H01L 29/15

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: metal-semiconductor-metal, MSM, mean free path, charge carrier, metal layer

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5019530 A (ALAN W. KLEINSASSER et al.) 28 May 1991 See abstract, column 5, lines 10-67, column 7, lines 1-67, column 8, lines 15-67, column 9, lines 1-67 and figures 1-6.	1-4,6,8-13,18,20-22
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A	JP 61-35384 A (FUJI ELECTRIC CO., LTD.) 19 February 1986 See abstract, pages 531-534 and figures 1-5.	1-24
A	US 2010-0102298 A1 (KOUCHENG WU) 29 April 2010 See abstract, paragraphs [0086]-[0107] and figures 3-9c.	1-24
A	US 2004-0016922 A1 (ROLF ALLENSPACH et al.) 29 January 2004 See paragraphs [0020]-[0024] and figure 1.	1-24
A	KR 10-2010-0037007 A (ILJIN COPPER FOIL CO., LTD.) 08 Aril 2010 See abstract, paragraphs [0026]-[0036] and figures 1-8.	1-24

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:
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Date of the actual completion of the international search	Date of mailing of the international search report
23 September 2013 (23.09.2013)	**25 September 2013 (25.09.2013)**

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/US2013/037358

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