



(51) International Patent Classification:

H01L 21/02 (2006.01) *H01L 21/50* (2006.01)
C01B 32/28 (2017.01) *H01L 21/822* (2006.01)
H01L 21/04 (2006.01) *C30B 29/04* (2006.01)
H01L 21/265 (2006.01)

(21) International Application Number:

PCT/IB2024/051150

(22) International Filing Date:

08 February 2024 (08.02.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/484,075 09 February 2023 (09.02.2023) US

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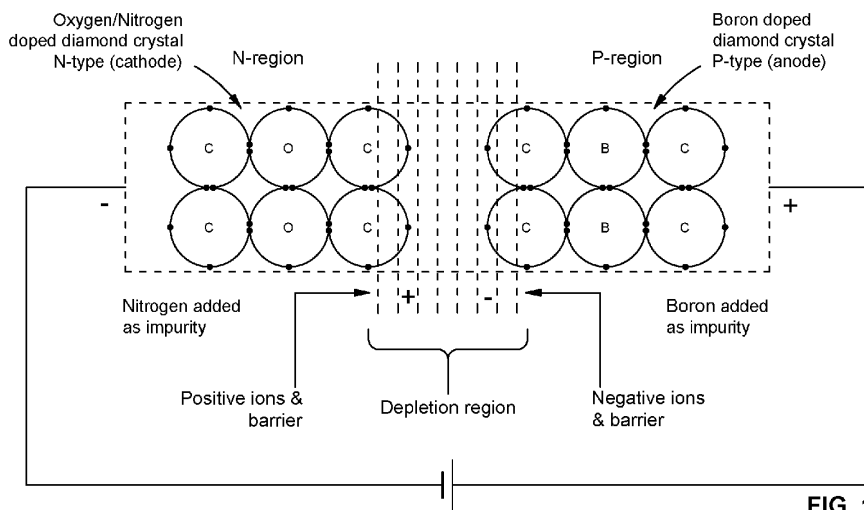
(81) Designated States (unless otherwise indicated, for every kind of national protection available):

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available):

ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, 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, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

(54) Title: N-TYPE CARBON-BASED SEMICONDUCTOR SUBSTRATES AND METHODS OF PREPARING SAME



(57) Abstract: The invention describes a method of producing a semiconductor substrate by utilising a body of sp^3 carbon allotrope, such as diamond or Diamond-Like Carbon and processing the body with electron donor ions to form an n-type semiconductor substrate. The donor ions have an ionic radius within 15% larger or smaller than the atom ionic radius of the sp^3 carbon allotrope. The invention further extends to a semiconductor substrate and semiconductors having a substrate as prepared in accordance with the invention.

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Published:

- with international search report (Art. 21(3))
- in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE