

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
16 December 2021 (16.12.2021)



(10) International Publication Number
WO 2021/249262 A1

(51) International Patent Classification:

H01L 21/02 (2006.01) *H01L 27/08* (2006.01)
H01L 21/82 (2006.01) *H01L 27/24* (2006.01)

(21) International Application Number:

PCT/CN2021/097946

(22) International Filing Date:

02 June 2021 (02.06.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

16/900,888 13 June 2020 (13.06.2020) 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, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD,

(54) Title: NANOSHEET GATED DIODE

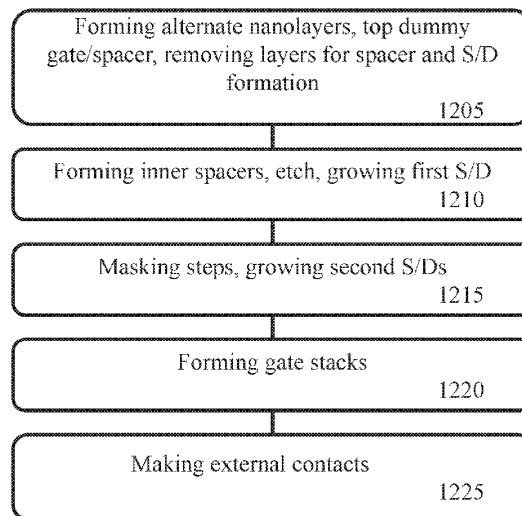


Figure 12

1200

(57) Abstract: One or more gated nanosheet diodes are disposed on a substrate and made from a nanosheet structure. A first (second) source/drain (S/D) is disposed on the substrate. The first (second) S/D has a first (second) S/D doping concentration with a first (second) S/D doping type. One or more p-n junctions form one or more respective diodes. There is a first side and a second side of each of the p-n junctions. The first (second) sides of the p-n junctions electrically and physically connect to the first (second) S/Ds and have the same type of doping, respectively. A gate stack, made of a gate dielectric layer and a gate metal, interfaces and surrounds each of the p-n junctions.

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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,
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, GH, GM, KE, LR, LS, MW, MZ, NA, RW, 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, 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).

Published:

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