

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
19 August 2021 (19.08.2021)



(10) International Publication Number
WO 2021/163175 A1

(51) International Patent Classification:

H01L 29/20 (2006.01) H01L 21/32 (2006.01)
H01L 21/265 (2006.01) H01L 21/324 (2006.01)

(21) International Application Number:

PCT/US2021/017434

(22) International Filing Date:

10 February 2021 (10.02.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/975,075 11 February 2020 (11.02.2020) 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, 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,

(54) Title: METHOD AND SYSTEM FOR DIFFUSING MAGNESIUM IN GALLIUM NITRIDE MATERIALS USING SPUTTERED MAGNESIUM SOURCES

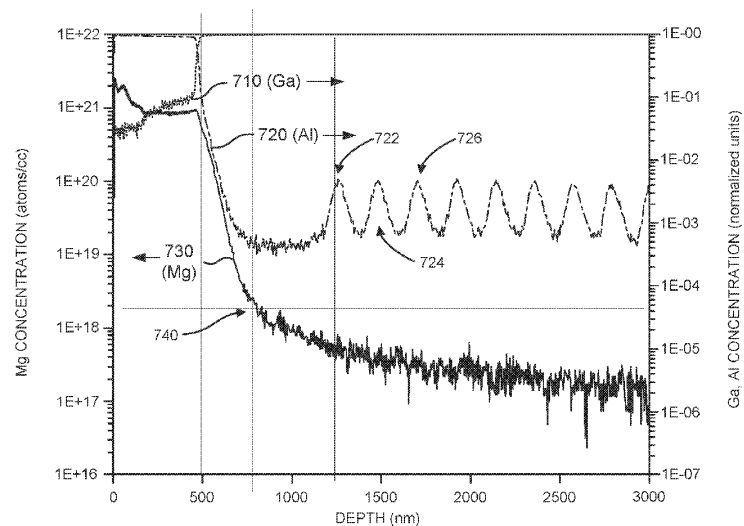


FIG. 7

(57) Abstract: A method of forming a doped gallium nitride (GaN) layer includes providing a substrate structure, including a gallium nitride layer, forming a dopant source layer over the gallium nitride layer, and depositing a capping structure over the dopant source layer. The method also includes annealing the substrate structure to diffuse dopants into the gallium nitride layer, removing the capping structure and the dopant source layer, and activating the diffused dopants.

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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))*