

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
9 October 2008 (09.10.2008)

PCT

(10) International Publication Number
WO 2008/120094 A9

(51) International Patent Classification:

H01L 29/417 (2006.01) *H01L 21/265* (2006.01)*H01L 29/45* (2006.01) *H01L 21/335* (2006.01)*H01L 29/778* (2006.01) *H01L 21/285* (2006.01)

(21) International Application Number:

PCT/IB2008/000788

(22) International Filing Date:

25 March 2008 (25.03.2008)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0754186 30 March 2007 (30.03.2007) FR

(71) Applicant (for all designated States except US):

PICOGIGA INTERNATIONAL [FR/FR]; Chemin des Franques, F-38190 Bernin (FR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **LAHRECHE, Hacène** [FR/FR]; 5, rue Sedaine, F-75011 Paris (FR).(74) Agent: **SOITEC**; Huyghe, Emmanuel, Chemin des Franques, Parc Technologique des Fontaines, Bernin, Cedex, F-38926 Crolles (FR).

(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, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ELECTRONIC DEVICE WITH IMPROVED OHMIC CONTACT

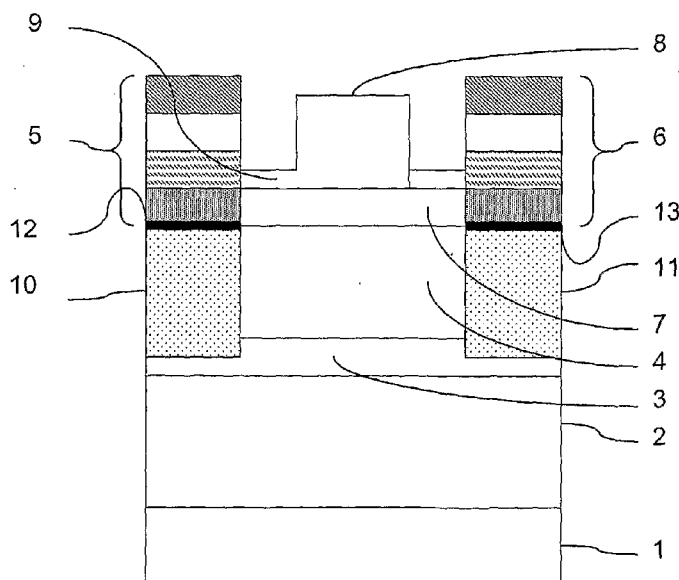


Fig. 2

(57) Abstract: The invention relates to an electronic device successively comprising from its base to its surface: - a support layer (1), - a channel layer (3) to contain an electron gas, - a barrier layer (4) - at least one ohmic contact electrode (5) formed by a superposition of metallic layers a first layer of which is in contact with the barrier layer (4). The device is remarkable in that the barrier layer (4) presents a region called contact region (10), under the ohmic contact electrode(s) (5), which region comprises at least one metal selected from the metals forming said superposition of metallic layers, and in that a local alloying (12) binds the contact region (10) and the first layer of the electrode (5).



Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

Published:

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

(48) Date of publication of this corrected version:

17 September 2009

(15) Information about Correction:

see Notice of 17 September 2009

(88) Date of publication of the international search report:

4 December 2008