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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
11 January 2007 (11.01.2007)

PCT

(10) International Publication Number
WO 2007/005136 A1

(51) International Patent Classification:
H01L 21/8238 (2006.01)

(21) International Application Number:
PCT/US2006/019720

(22) International Filing Date: 23 May 2006 (23.05.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

102005030583.0	30 June 2005 (30.06.2005)	DE
11/379,606	21 April 2006 (21.04.2006)	US

(71) Applicant *(for all designated States except US)*: **ADVANCED MICRO DEVICES, INC.** [US/US]; ONE AMD PLACE, MAIL STOP 68, P.o. Box 3453, Sunnyvale, CA 94088-3453 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **LEHR, Matthias** [DE/DE]; Bischofsweg 26, D-01099 Dresden (DE). **FROHBERG, Kai** [DE/DE]; Gartenstr 20, D-01689 Niederau (DE). **SCHWAN, Christoph** [DE/DE]; Rathausplatz 2, D-57580 Gebhardshain (DE).

(74) Agent: **DRAKE, Paul, S.**; ADVANCED MICRO DEVICES, INC., 5204 EAST BEN WHITE BOULEVARD, Mail Stop 562, Austin, TX 78741 (US).

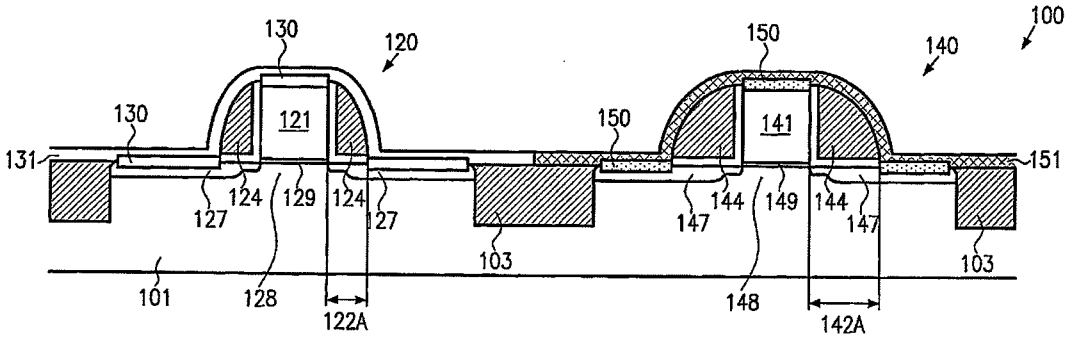
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TECHNIQUE FOR FORMING CONTACT INSULATION LAYERS SILICIDE REGIONS WITH DIFFERENT CHARACTERISTICS



(57) Abstract: A technique is provided that enables the formation of metal suicide individually for N-channel transistors and P-channel transistors, while at the same time a strain-inducing mechanism is also provided individually for each transistor type. In this way, a cobalt suicide (130, 230) having a reduced distance to the channel region of an NMOS transistor (120, 220) may be provided, while a P-channel transistor (140, 240) may receive a highly conductive nickel suicide (150, 250), without unduly affecting or compromising the characteristics of the N-channel transistor (120, 220).

WO 2007/005136 A1