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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
14 November 2002 (14.11.2002)

PCT

(10) International Publication Number
WO 02/091463 A1

(51) International Patent Classification[7]: H01L 21/8222, 29/732

(21) International Application Number: PCT/SE02/00838

(22) International Filing Date: 29 April 2002 (29.04.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0101567-6 4 May 2001 (04.05.2001) SE
0103036-0 13 September 2001 (13.09.2001) SE

(71) Applicant *(for all designated States except US)*: **TELEFONAKTIEBOLAGET LM ERICSSON** [SE/SE]; S-126 25 Stockholm (SE).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **JOHANSSON, Ted** [SE/SE]; Sveavägen 66, S-182 62 Djursholm (SE). **NORSTRÖM, Hans** [SE/SE]; Mårdstigen 3, S-170 71 Solna (SE). **ALGOTSSON, Patrik** [SE/SE]; Slipgatan 16, S-117 39 Stockholm (SE).

(74) Agents: **FRITZON, Rolf** et al.; Kransell & Wennborg AB, Box 27834, S-115 93 Stockholm (SE).

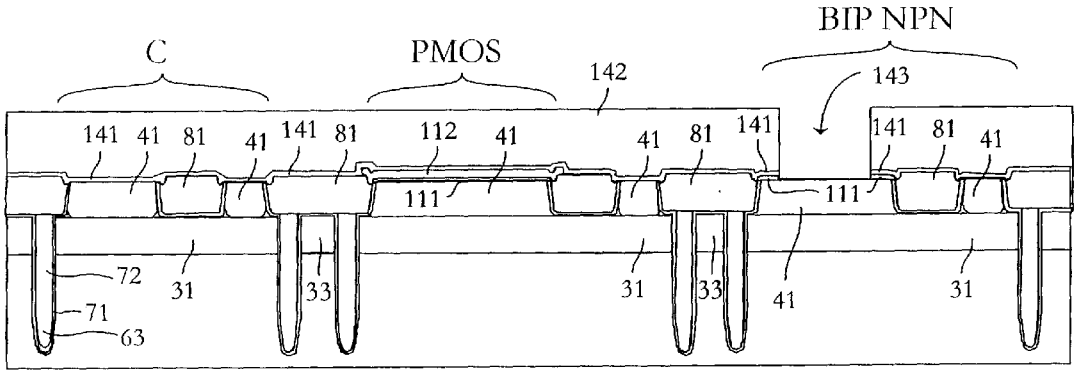
(81) Designated States *(national)*: AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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: SEMICONDUCTOR PROCESS AND INTEGRATED CIRCUIT



(57) Abstract: The present invention refers to an IC fabrication method comprising: providing a substrate (10, 41); forming an active region (41) for a bipolar transistor and an active region (41) for a MOS device in the substrate (10); forming isolation areas (81) around, in a horizontal plane, the active regions; forming a MOS gate region (111, 112) on the active region for the MOS device; forming a layer (141) of an insulating material on the MOS gate region and on the active region (31) for the transistor; and defining a base region in the active region for the transistor by producing an opening (143) in the insulating layer (141) such that the remaining portions of the insulating layer (141) partly cover the active region for the bipolar transistor. The insulating layer (141) remains on the MOS gate region to encapsulate and protect the MOS gate region during subsequent manufacturing steps.

WO 02/091463 A1