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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
4 July 2002 (04.07.2002)

PCT

(10) International Publication Number
WO 02/052642 A3

(51) International Patent Classification[7]: H01L 21/768

(21) International Application Number: PCT/US01/50233

(22) International Filing Date:
20 December 2001 (20.12.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/748,692 26 December 2000 (26.12.2000) US

(71) Applicant: HONEYWELL INTERNATIONAL INC. [US/US]; 101 Columbia Avenue, P.O. Box 2245, Morristown, NJ 07960 (US).

(72) Inventors: DANIELS, Brian, J.; Rt. 1 Box 17, La Honda, CA 94020 (US). KENNEDY, Joseph, T.; 717 N. Fourth Street, San Jose, CA 95112 (US). DUNNE, Jude, A.; 1047 Marcussen Drive, Menlo Park, CA 94025 (US).

(74) Agents: CRISS, Roger, H. et al.; Honeywell International Inc., 101 Columbia Avenue, P.O. Box 2245, Morristown, NJ 07960 (US).

(81) Designated States *(national)*: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

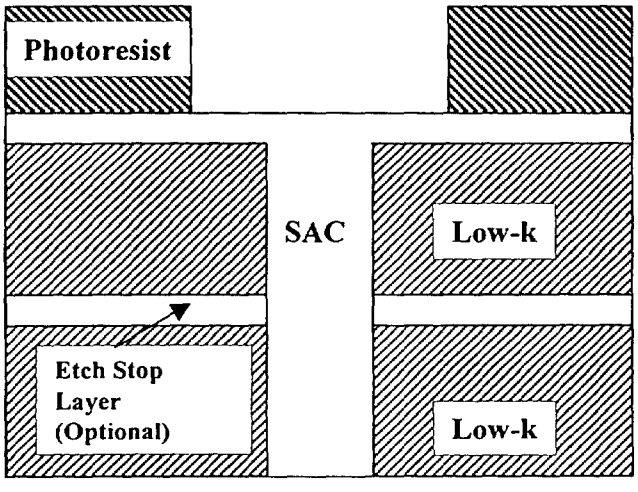
(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,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

Published:
— *with international search report*

(88) Date of publication of the international search report:
6 February 2003

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: METHOD FOR ELIMINATING REACTION BETWEEN PHOTORESIST AND ORGANOSILICATE GLASS



(57) Abstract: A method of forming a microelectronic device while preventing photoresist poisoning. Various layers of conductive metals and dielectric materials are deposited onto a substrate in selective sequence to form an integrated circuit. Vias and trenches are formed throughout the structure by exposing and patterning a photoresist material. The dielectric materials of the insulating layers are protected from the photoresist to prevent chemical reactions which lead to photoresist poisoning. This is done by forming a modified surface layer on the dielectric material by either depositing an additional layer that covers the dielectric material, or by modifying the exposed surface of the dielectric material to a plasma or chemical treatment.

WO 02/052642 A3