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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
3 January 2003 (03.01.2003)

PCT

(10) International Publication Number
WO 03/001582 A2

(51) International Patent Classification[7]: H01L 21/3213

(21) International Application Number: PCT/US02/19496

(22) International Filing Date: 20 June 2002 (20.06.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

09/887,767	21 June 2001 (21.06.2001)	US
09/888,084	21 June 2001 (21.06.2001)	US
09/888,002	21 June 2001 (21.06.2001)	US

(71) Applicant: **MICRON TECHNOLOGY, INC.** [US/US]; P.O. Box 6, 8000 South Federal Way, Boise, ID 83706-9632 (US).

(72) Inventors: **LEE, Whonchee**; 8998 S. Raptor Lane, Boise, ID 83709 (US). **MEIKLE, Scott, G.**; 1301 E. Jefferson, Boise, ID 83712 (US). **MOORE, Scott, E.**; 1840 E. Mary Lane, Meridian, ID 83642 (US).

(74) Agents: **WECHKIN, John, W.** et al.; Perkins Coie LLP, P.O. Box 1247, Seattle, WA 98111-1247 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, 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, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, 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:

— *without international search report and to be republished upon receipt of that 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.

WO 03/001582 A2

(54) Title: MICROELECTRONIC SUBSTRATE HAVING CONDUCTIVE MATERIAL WITH BLUNT CORNERED APERTURES, AND ASSOCIATED METHODS FOR REMOVING CONDUCTIVE MATERIAL

(57) Abstract: A microelectronic substrate and method for removing conductive material from a microelectronic substrate. In one embodiment, the microelectronic substrate includes a conductive or semiconductive material with a recess having an initially sharp corner at the surface of the conductive material. The corner can be blunted or rounded, for example, by applying a voltage to an electrode in fluid communication with an electrolytic fluid disposed adjacent to the corner. Electrical current flowing through the corner from the electrode can oxidize the conductive material at the corner, and the oxidized material can be removed with a chemical etch process.