30/09/02
20020586 67

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

(19) World Intellectual Property Organization
International Bureau

*162162*

(43) International Publication Date
11 October 2001 (11.10.2001)

PCT

(10) International Publication Number
WO 01/75967 A1

(51) International Patent Classification[7]: H01L 21/8242

(21) International Application Number: PCT/US01/09564

(22) International Filing Date: 22 March 2001 (22.03.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/539,293 30 March 2000 (30.03.2000) US

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(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, 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, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

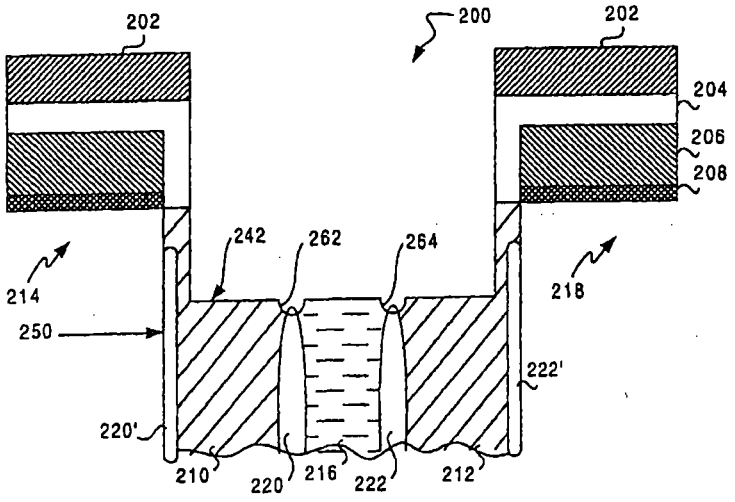
(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML,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

**Published:**
— *with international search report*
— *with amended claims*

**Date of publication of the amended claims:** 29 November 2001

*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: IN SITU AND EX SITU ETCHING PROCESS FOR STI WITH OXIDE COLLAR APPLICATION




(57) Abstract: A method or process for etching a trench in an IC structure is disclosed. The IC structure might be comprised of a plurality of different component materials arranged proximate to one another, all of which need to be etched down to a target level. A first etching chemistry is applied which preferentially etches a one type of component material. A second etching chemistry is applied which preferentially etches another type of component material. The method or process toggles back and forth between the etching chemistries until the target level is reached. The toggling techniques serves to maintain the profiles of the different component materials. One component material might also be embedded, as a collar or otherwise, around another component material. The toggling technique can serve to modulate the height, level, or shape of one material relative to another material. The toggling steps can be performed in situ or ex situ. The toggling technique can be used with different mask materials, including a photoresist or a hardmask over the IC structure.

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