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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
17 July 2003 (17.07.2003)

PCT

(10) International Publication Number
WO 03/058703 A1

(51) International Patent Classification[7]: H01L 21/4763

(21) International Application Number: PCT/US02/41256

(22) International Filing Date:
26 December 2002 (26.12.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/032,480 27 December 2001 (27.12.2001) US

(71) Applicant: LAM RESEARCH CORPORATION [US/US]; 4650 Cushing Parkway, Fremont, CA 94538 (US).

(72) Inventors: GOTKIS, Yehiel; 37789 Peachtree Ct., Fremont, CA 94536 (US). KISTLER, Rodney; 131 Belvue Drive, Los Gatos, CA 95032 (US). ROMM, Leonid; 4654 Eggers Drive, Fremont, CA 94536 (US). LIN, Te Hua; 16700 Chirco Drive, Los Gatos, CA 95032 (US).

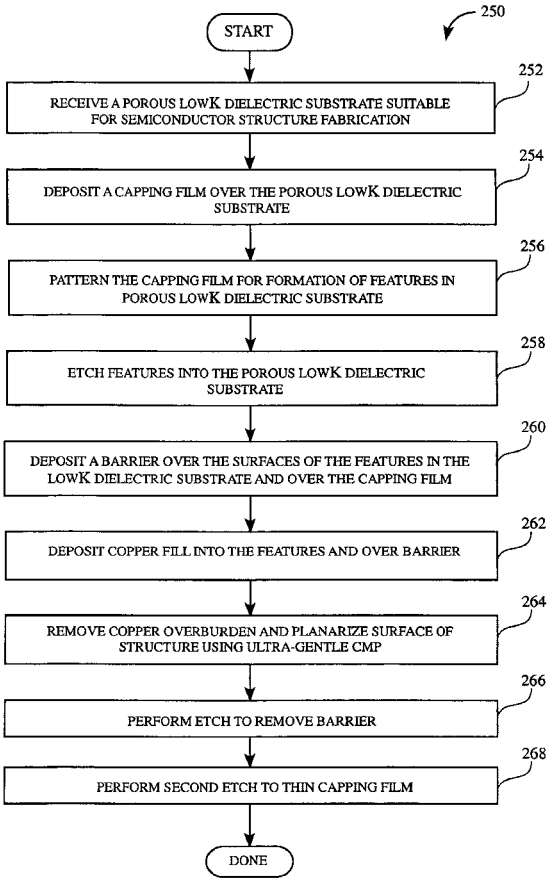
(74) Agent: VON WOHLD, Rick; Martine & Penilla, LLP, 710 Lakeway Drive, Suite 170, Sunnyvale, Ca 94085 (US).

(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, 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, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK,

[Continued on next page]

(54) Title: METHODS FOR FABRICATING INTERCONNECT STRUCTURES HAVING LOW K DIELECTRIC PROPERTIES



(57) Abstract: Methods for fabricating semiconductor structures having LowK dielectric properties are provided. In one example, a copper dual damascene structure (100) is fabricated in a LowK dielectric insulator (102) including forming a capping film (110) over the insulator before features (104) are defined therein. After the copper is formed in the features, the copper overburden (106) is removed using ultra-gentle CMP, and then the barrier is removed using a dry etch process. Following barrier (108) removal, a second etch is performed to thin the capping film. The thinning is configured to reduce the thickness of the capping film without removal, and thereby reducing the K-value of the LowK dielectric structure.

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TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

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