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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
12 September 2003 (12.09.2003)

PCT

(10) International Publication Number
WO 2003/075342 A3

(51) International Patent Classification[7]: H01L 21/66, 21/00

(21) International Application Number:
PCT/US2003/005617

(22) International Filing Date: 26 February 2003 (26.02.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/361,064 1 March 2002 (01.03.2002) US
10/238,453 9 September 2002 (09.09.2002) US

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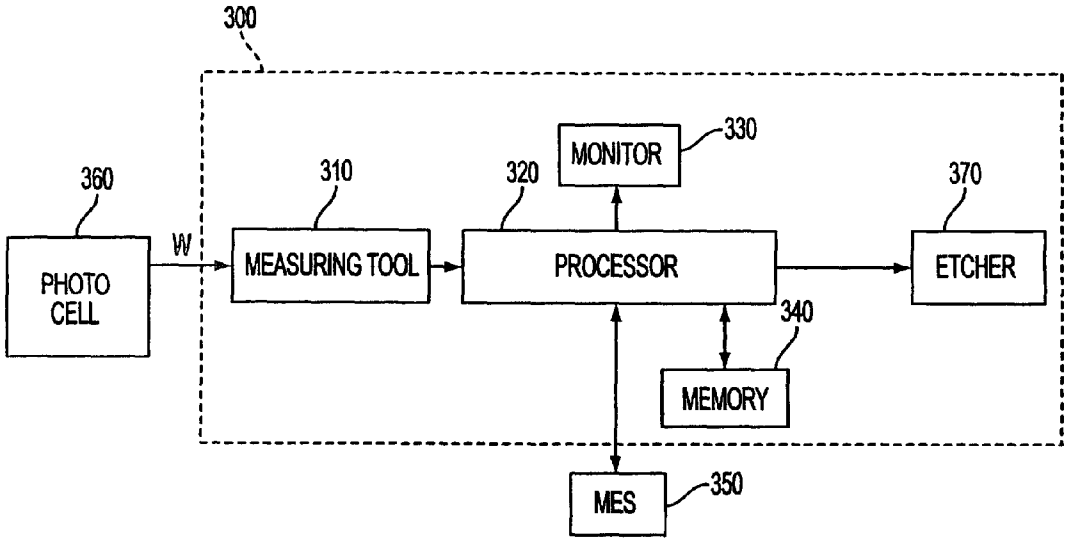
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, 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, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

[Continued on next page]

(54) Title: METHODOLOGY FOR REPEATABLE POST ETCH CD IN A PRODUCTION TOOL



(57) Abstract: A method and apparatus for processing a semiconductor wafer is provided for reducing dimensional variation by feeding forward information relating to photoresist mask CD and profile to adjust the next process the incepted wafer will undergo (e.g., a Photoresist trim process.) After the processing step, dimensions of a structure formed by the process, such as the CD of a gate formed by the, are measured, and this information is fed back to the process tool to adjust the process for the next wafer to further reduce dimensional variation. By taking into account photoresist CD and variation when choosing a resist trim recipe, post-etch CD is decoupled from pre-etch CD and profile. With automatic compensation for pre-etch CD, a very tight distribution of post-etch CD is achieved. In certain embodiments, the CD and profile measurements, trim, etch processing and post-etch cleaning are performed at a single module in a controlled environment. All of the transfer and processing steps performed by the module are performed in a clean environment, thereby increasing yield by avoiding exposing the wafer to the atmosphere and possible contamination between steps.

WO 2003/075342 A3

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
29 January 2004

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