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WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 :
H01L 21/68, H01J 37/32

A1

(11) International Publication Number: WO 00/19520

(43) International Publication Date: 6 April 2000 (06.04.00)

(21) International Application Number: PCT/US99/21336

(22) International Filing Date: 15 September 1999 (15.09.99)

(30) Priority Data:
09/164,389 30 September 1998 (30.09.98) US

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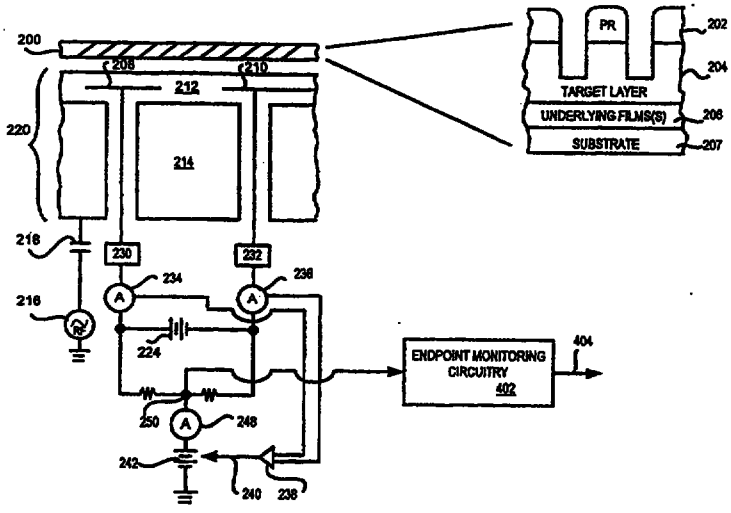
(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, 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), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: METHODS AND APPARATUS FOR DETERMINING AN ETCH ENDPOINT IN A PLASMA PROCESSING SYSTEM



(57) Abstract

Methods and apparatus for ascertaining the end of an etch process while etching through a target layer on a substrate in a plasma processing system which employs an electrostatic chuck. The end of the etch process is ascertained by monitoring the electric potential of the substrate to detect a pattern indicative of the end of the etch process. By the way of example, changes to this potential may be observed by monitoring the current flowing to the pole of the electrostatic chuck. Upon ascertaining the pattern indicative of the end of the etch process, for example by monitoring the current signal, a control signal is produced to terminate the etch. If a bias compensation power supply is provided to keep the currents flowing to the poles of the electrostatic chuck substantially equal but opposite in sign throughout the etch, the compensation voltage output by the bias compensation power supply may be monitored for the aforementioned pattern indicative of the end of the etch process in order to terminate the etch.