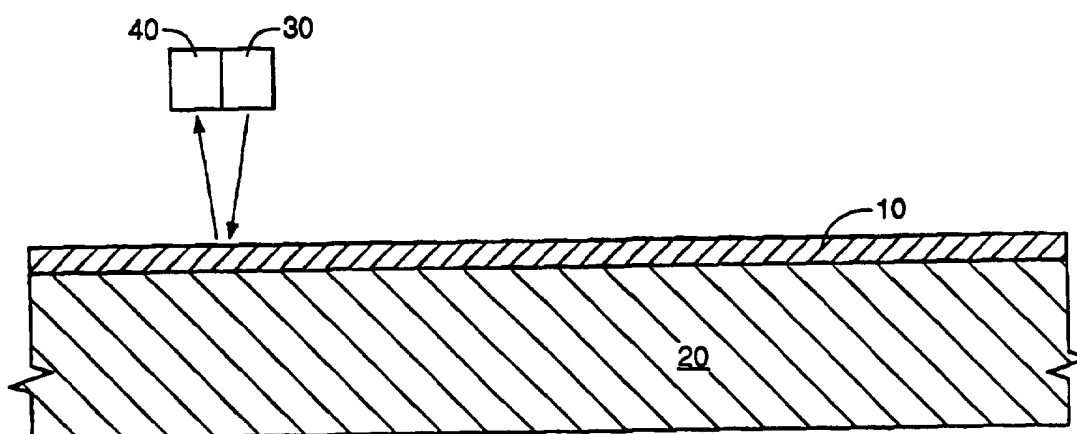


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(21) International Application Number: PCT/US96/01027 (22) International Filing Date: 30 January 1996 (30.01.96) (30) Priority Data: 08/386,023 9 February 1995 (09.02.95) US (71) Applicant: MICRON TECHNOLOGY, INC. [US/US]; 8000 S. Federal Way, Boise, ID 83706-9632 (US). (72) Inventors: MEIKLE, Scott, G.; 1301 East Jefferson, Boise, ID 83712 (US). HUDSON, Guy, F.; 1726 Merrill, Boise, ID 83705 (US). (74) Agent: FLETCHER, Michael, G.; Arnold, White & Durkee, P.O. Box 4433, Houston, TX 77210 (US).			(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 26 September 1996 (26.09.96)

(54) Title: METHOD AND APPARATUS FOR PREDICTING PROCESS CHARACTERISTICS OF POLYURETHANE PADS**(57) Abstract**

A measurement of polyurethane pad characteristics is used to predict performance characteristics of polyurethane pads used for chemical mechanical planarization (CMP) of semiconductor wafers, and to adjust process parameters for manufacturing polyurethane pads. In-situ fluorescence measurements of a pad that has been exposed to a high pH and high temperature environment are performed. The fluorescence characteristics of the pad are used to predict the rate of planarization of a wafer. A portion of one pad from a manufacturing lot is soaked in an organic solvent which causes the portion to swell. The relative increase in size is indicative of the performance characteristics of pads within the manufacturing lot. Statistical Process Control methods are used to optimize the CMP pad manufacturing process. Predicted pad characteristics are available for each pad.

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INTERNATIONAL SEARCH REPORT

International Application No

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 B24B37/04 B24D3/32 H01L21/3105 G01N21/64 G01N19/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A	IBM TECHNICAL DISCLOSURE BULLETIN, vol. 21, no. 4, September 1978, NEW YORK, US, page 1433 XP002009653 ANONYMOUS: "Selective Staining Method for Studying Polishing Pads. September 1978."	1,6,9
X	---	5,15-21
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Date of the actual completion of the international search

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Information on patent family members

International Application No

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