

US006506686B2

(12) United States Patent

Masuda et al.

US 6,506,686 B2 (10) Patent No.:

(45) Date of Patent: Jan. 14, 2003

(54) PLASMA PROCESSING APPARATUS AND PLASMA PROCESSING METHOD

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 13 days.

(21) Appl. No.: 09/790,702

(22)Filed: Feb. 23, 2001

(65)**Prior Publication Data**

US 2001/0018951 A1 Sep. 6, 2001

(30)Foreign Application Priority Data

Mar. 6, 2000 (JP) 2000-065769 (51) Int. Cl.⁷ H01L 21/00 (52) U.S. Cl. 438/715; 156/345.44; 156/345.46;

156/345.48; 156/345.49; 216/68; 216/70; (58) **Field of Search** 156/345 P, 345 C,

> 156/345 ME, 345 MG, 345 PH; 438/710, 715, 728, 729, 732; 216/67, 70, 71, 68

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(57) **ABSTRACT**

In a plasma processing apparatus that has a vacuum chamber, a process gas supply means of supply gas to a processing chamber, an electrode to hold a sample inside said vacuum chamber, a plasma generator installed in said vacuum chamber opposite to said sample, and a vacuum exhaust system to decrease pressure of said vacuum chamber, a bias voltage of Vdc=-300 to -50 V is applied and the surface temperature of said plate ranges from 100 to 200° C. In addition, the surface temperature fluctuation of the silicon-made plate in said plasma processing apparatus is kept within ±25° C.

10 Claims, 7 Drawing Sheets

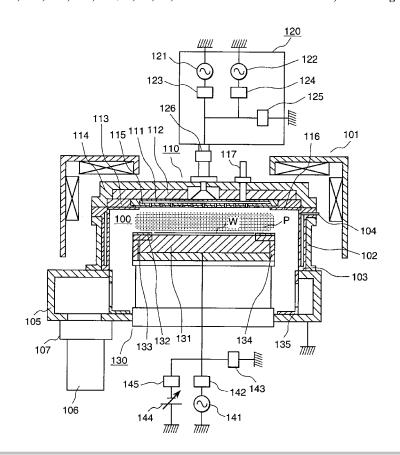




FIG. 1

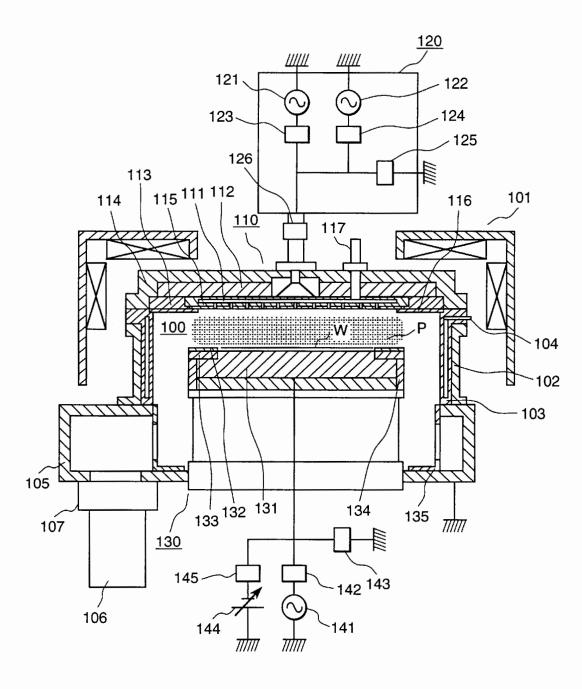
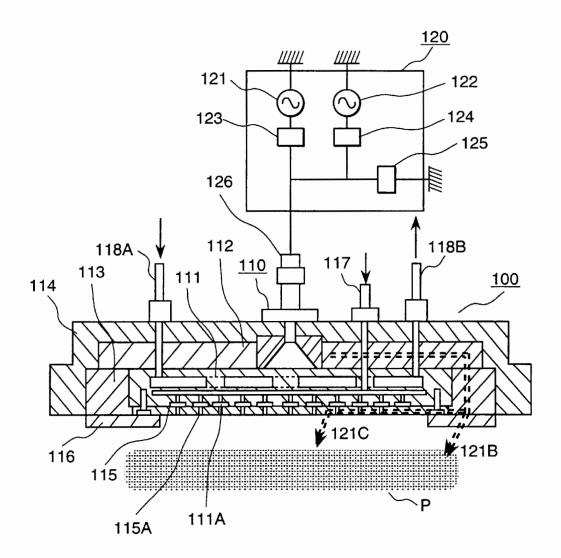




FIG. 2





Si ETCHING RATE (μ m/h)

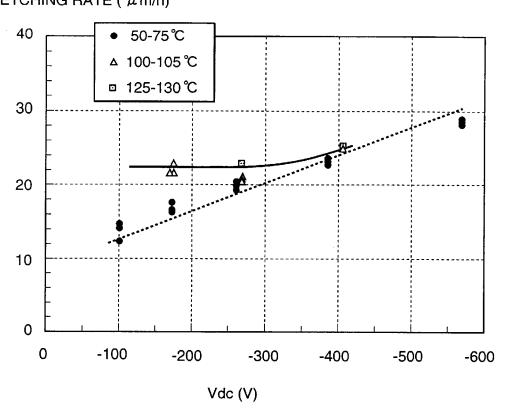


FIG. 4

TEMPERATURE (deg)

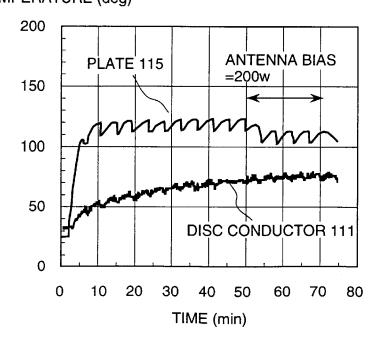




FIG. 5

TEMPERATURE (deg)

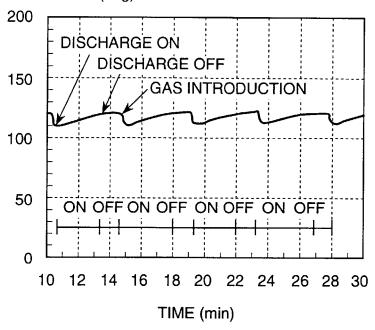
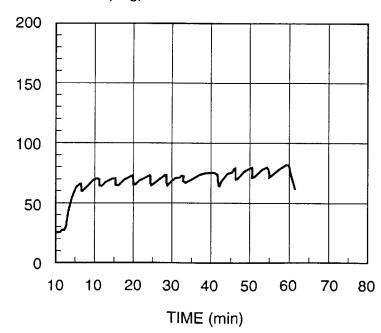


FIG. 6

TEMPERATURE (deg)





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