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Kikuchi et al.

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[54] PLASMA ASHING METHOD AND APPARATUS THEREFOR

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[21] Appl. No.: 462,380

[22] Filed: Jan. 9, 1990

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Jan. 10, 1989	[JP] Japan	 1-2043
Jan. 10, 1989	[JP] Japan	 1-2044
Jan. 10, 1989	[JP] Japan	 1-2045

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Primary Examiner—Bruce A. Reynolds

Assistant Examiner-Tu Hoang

Attorney, Agent, or Firm-Armstrong & Kubovcik

[57] ABSTRACT

In a method for plasma ashing a resist film coated on a substrate, the temperature of the substrate is controlled initially at temperatures below that at which explosion of the resist film occurs until a surface portion of a resist film has been removed. Thereafter, the substrate temperature is increased to remove the remaining portions of the resist film. An apparatus for conducting the method includes a plurality of supports, which may be movably disposed within a vacuum treatment chamber for moving the substrate away from a source of heat and for moving the substrate into contact with the heating source.

8 Claims, 10 Drawing Sheets

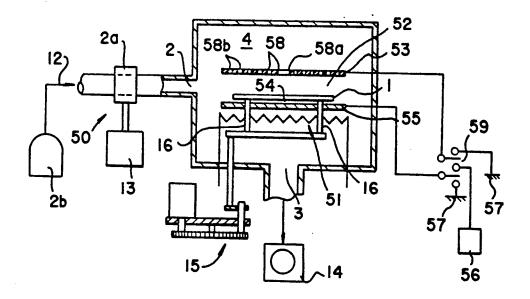
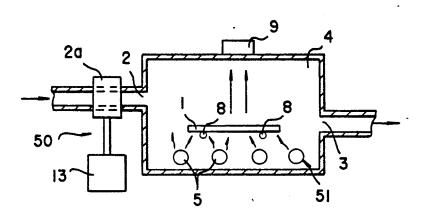


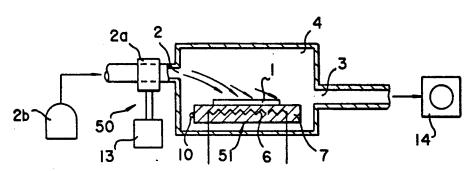


FIG.I PRIOR ART



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FIG.2 PRIOR ART



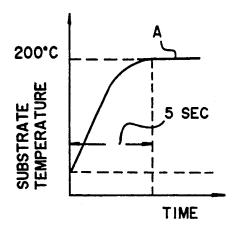


FIG.3 PRIOR ART

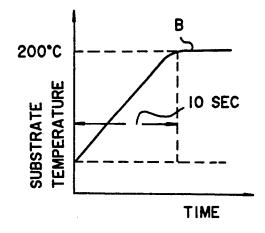


FIG.4 PRIOR ART

FIG.5 PRIOR ART

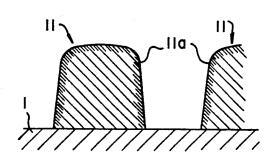
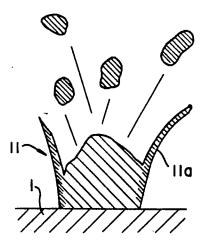
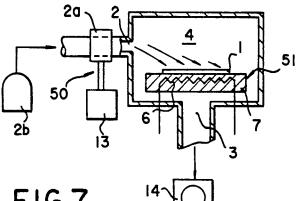


FIG.6 PRIOR ART





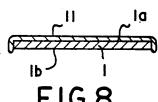
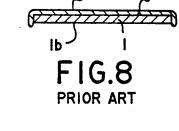


FIG.7

PRIOR ART



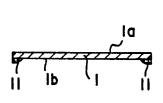


FIG.9 PRIOR ART

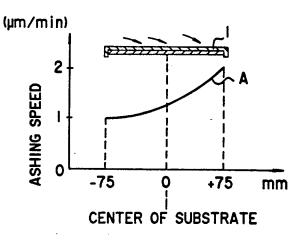
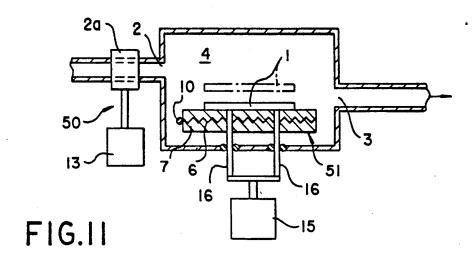
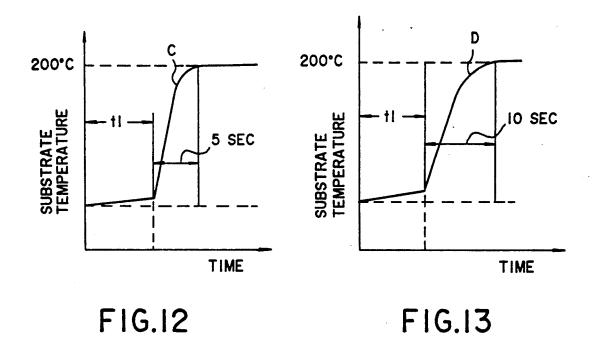
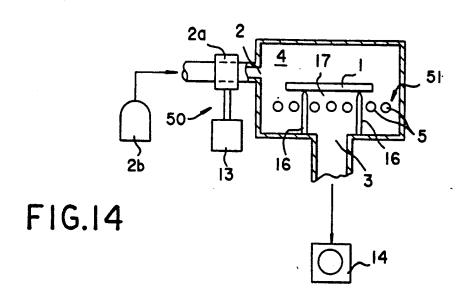


FIG.10 PRIOR ART

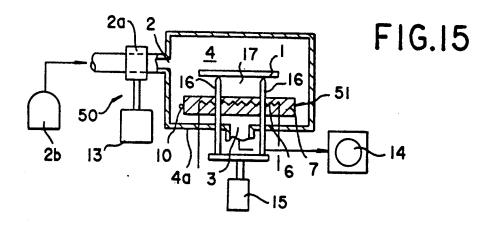


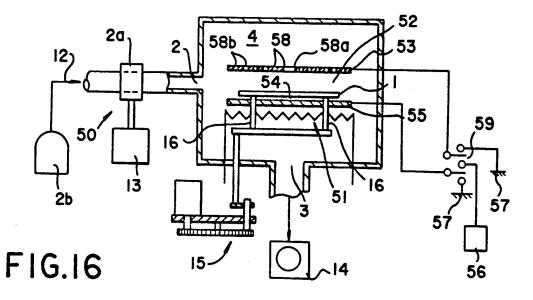
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