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[54] **METHOD FOR WATER VAPOR ENHANCED CHARGED-PARTICLE-BEAM MACHINING**

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Related U.S. Application Data

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[51] **Int. Cl.**⁷ **H01J 37/30**

[52] **U.S. Cl.** **250/492.2; 250/492.21; 204/192.34; 438/712**

[58] **Field of Search** **250/492.21, 492.2; 204/192.34; 438/712**

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[57] **ABSTRACT**

Water vapor enhanced focused particle beam machining speeds up the removal of polymer-based dielectric materials from areas surrounding metallic interconnects on integrated circuits while at the same time decreasing the rate of removal of aluminum. Selective material removal protects metal interconnects from machining damage and greatly reduces the time that protective material is exposed to the particle beam.

20 Claims, 2 Drawing Sheets

