

ABSTRACT OF THE DISCLOSURE

METHOD FOR ETCHING ORGANIC HARDMASKS

A method of etching or removing an organic hardmask overlying a low dielectric constant film in a lithographic process. The method includes providing a dielectric film having thereover an organic hardmask to be removed, the dielectric film having a dielectric constant no greater than about 4.0, introducing over the organic hardmask an ionizable gas comprising a mixture of hydrogen and an oxidizing gas, and applying energy to the mixture to create a plasma of the mixture. The method further includes contacting the organic hardmask with the plasma, with the organic hardmask being at a temperature in excess of 200°C, to remove the organic hardmask without substantially harming the underlying substrate.

Fig. 4A



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