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(54) Title: METHODS OF REDUCING PHOTORESIST DISTORTION WHILE ETCHING IN A PLASMA PROCESSING SYSTEM

(57) Abstract: A method for substantially reducing photoresist wiggling while etching a layer on a substrate is provided. The substrate having thereon the layer disposed below a photoresist mask is introduced into the plasma processing chamber. An etchant source gas mixture is flowed into the plasma processing chamber, where the etchant source gas mixture comprises xenon and an active etchant, where a flow rate of the xenon is at least 35% of etchant source gas mixture. A plasma is struck from the etchant source gas mixture. The layer is etched with the plasma, where the flow rate of xenon reduces photoresist wiggling.

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