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(54) Title: MINIMIZATION OF MASK UNDERCUT ON DEEP SILICON ETCH

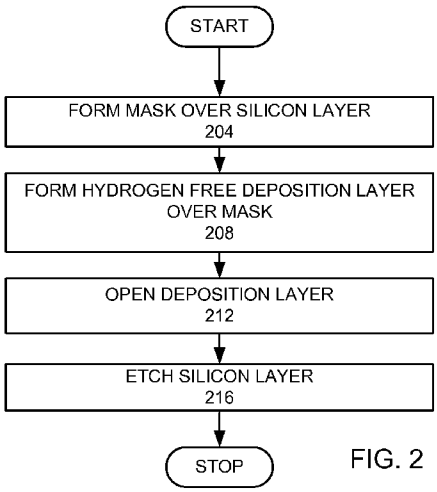


FIG. 2

(57) Abstract: A method for forming features in a silicon layer is provided. A mask is formed with a plurality of mask openings over the silicon layer. A polymer layer is deposited over the mask by flowing a hydrogen free deposition gas comprising C4F8, forming a plasma from the deposition gas, depositing a polymer from the plasma for at least 20 seconds, and stopping the depositing the polymer after the at least 20 seconds. The deposited polymer layer is opened by flowing an opening gas, forming a plasma from the opening gas which selectively removes the deposited polymer on bottoms of the plurality of mask openings with respect to deposited polymer on sides of the plurality of mask openings, and stopping the opening when at least some of the plurality of mask features are opened. The silicon layer is etched through the mask and deposited polymer layer.

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