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[Continued on next page]

(54) **Title**: DIELECTRIC FILM GROWTH WITH RADICALS PRODUCED USING FLEXIBLE NITROGEN/HYDROGEN RATIO

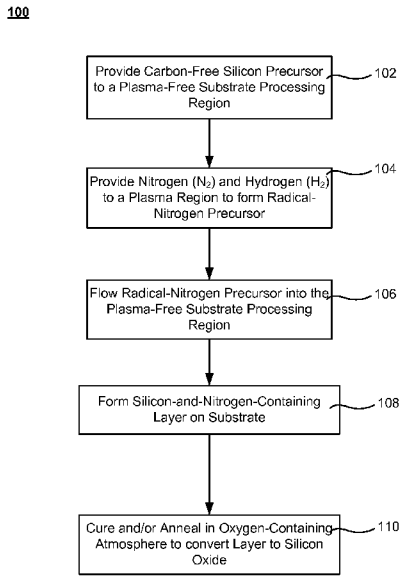


FIG. 1

(57) **Abstract**: Methods of forming dielectric layers are described. The method may include the steps of mixing a silicon-containing precursor with a radical-nitrogen precursor, and depositing a dielectric layer on a substrate. The radical-nitrogen precursor is formed in a remote plasma by flowing hydrogen (H2) and nitrogen (N2) into the plasma in order to allow adjustment of the nitrogen/hydrogen ratio. The dielectric layer is initially a silicon-and-nitrogen-containing layer which may be converted to a silicon-and-oxygen-containing layer by curing and/or annealing the film in an oxygen-containing environment.

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