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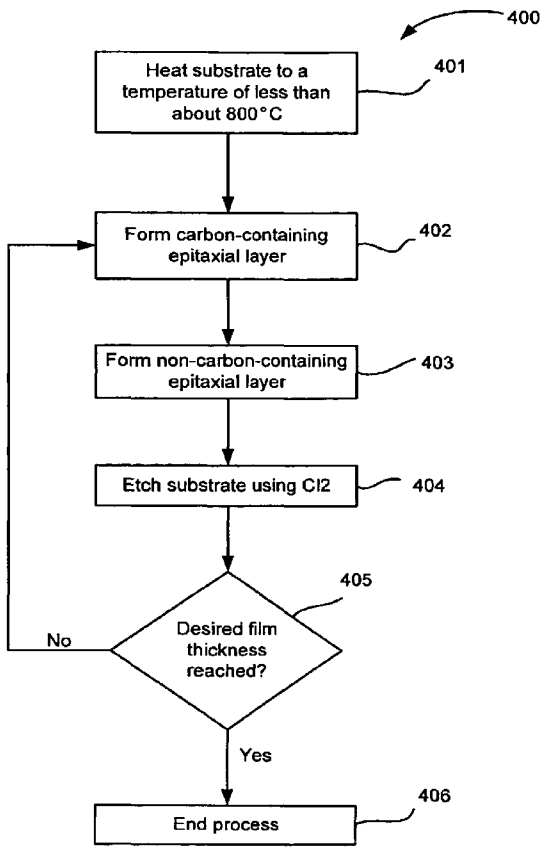
(54) Title: METHODS OF FORMING CARBON-CONTAINING SILICON EPITAXIAL LAYERS



(57) Abstract: In a first aspect, a method is provided for forming an epitaxial layer stack on a substrate. The method includes (1) selecting a target carbon concentration for the epitaxial layer stack; (2) forming a carbon-containing silicon layer on the substrate, the carbon-containing silicon layer having at least one of an initial carbon concentration, a thickness and a deposition time selected based on the selected target carbon concentration; and (3) forming a non-carbon-containing silicon layer on the carbon- containing silicon layer prior to etching. Numerous other aspects are provided.

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