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(54) **Title:** SEGMENTED FORMATION OF GATE INTERFACE

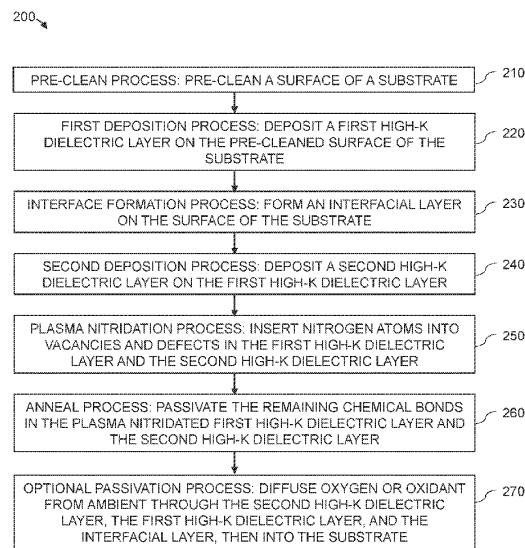


FIG. 2

(57) **Abstract:** A method of forming a semiconductor structure includes performing a first deposition process to deposit a first high- κ dielectric layer on a surface of a substrate, performing an interface formation process to form an interfacial layer on the surface of the substrate, performing a second deposition process to deposit a second high- κ dielectric layer on the interfacial layer, performing a plasma nitridation process to insert nitrogen atoms in the first high- κ dielectric layer and the second high- κ dielectric layer, and performing an anneal process to passivate chemical bonds in the first high- κ dielectric layer and the second high- κ dielectric layer.

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