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(54) Title: THERMAL ICEFILL AND RECESS ETCH MATCHING

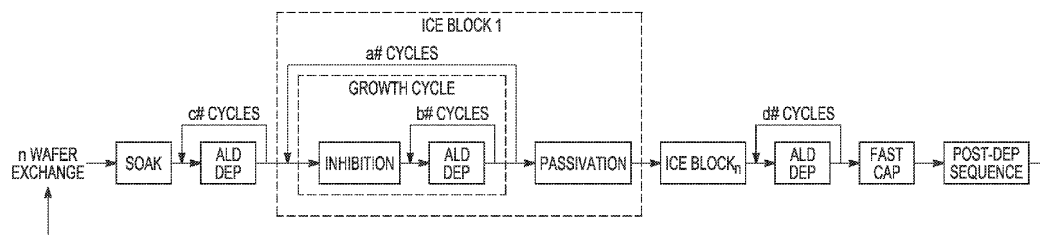


FIG. 2

(57) Abstract: A NAND structure and method of fabricating the structure are described. A multi-layer ONON stack is deposited on a Si substrate and a field oxide grown thereon. A portion of the field oxide is removed, and high-aspect-ratio channels are etched in the stack. The channels are filled with a Si oxide using a thermal ALD process. The thermal ALD process includes multiple growth cycles followed by a passivation cycle. Each growth cycle includes treating the surface oxide surface using an inhibitor followed by multiple cycles to deposit the oxide on the treated surface using a precursor and source of the oxide. The passivation after the growth cycle removes the residual inhibitor. The Si oxide is recess etched using a wet chemical etch of DHF and then capped using a poly-Si cap.