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(54) Title: METHODS, SYSTEMS, AND APPARATUS FOR PROCESSING SUBSTRATES USING ONE OR MORE AMORPHOUS CARBON HARDMASK LAYERS

(57) Abstract: Aspects generally relate to methods, systems, and apparatus for processing substrates using one or more amorphous carbon hardmask layers. In one aspect, film stress is altered while facilitating enhanced etch selectivity. In one implementation, a method of processing a substrate includes depositing one or more amorphous carbon hardmask layers onto the substrate, and conducting a rapid thermal anneal operation on the substrate after depositing the one or more amorphous carbon hardmask layers. The rapid thermal anneal operation lasts for an anneal time that is 60 seconds or less. The rapid thermal anneal operation includes heating the substrate to an anneal temperature that is within a range of 600 degrees Celsius to 1,000 degrees Celsius. The method includes etching the substrate after conducting the rapid thermal anneal operation.

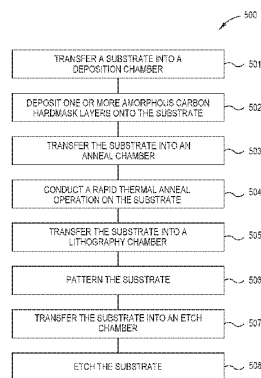


FIG. 5

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