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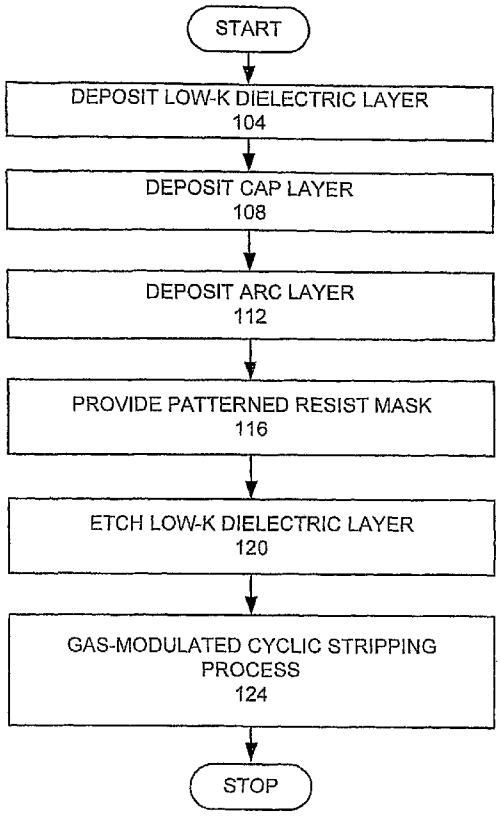
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(54) Title: METHOD FOR PLASMA STRIPPING USING PERIODIC MODULATION OF GAS CHEMISTRY AND HYDROCARBON ADDITION



(57) Abstract: A method for etching a feature in a low-k dielectric layer through a photoresist etch mask over a substrate. A gas-modulated cyclic stripping process is performed for more than three cycles for stripping a single photoresist mask. Each cycle of the gas-modulated cyclic stripping process comprises performing a protective layer formation phase and a stripping phase. The protective layer forming phase uses first gas chemistry with a deposition gas chemistry, wherein the protective layer forming phase is performed in about 0.005 to 10 seconds for each cycle. The stripping phase for stripping the photoresist mask uses a second gas chemistry using a stripping gas chemistry, where the first gas chemistry is different than the second gas chemistry, wherein the etching phase is performed in about 0.005 to 10 seconds for each cycle.

WO 2005/122226 A1

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