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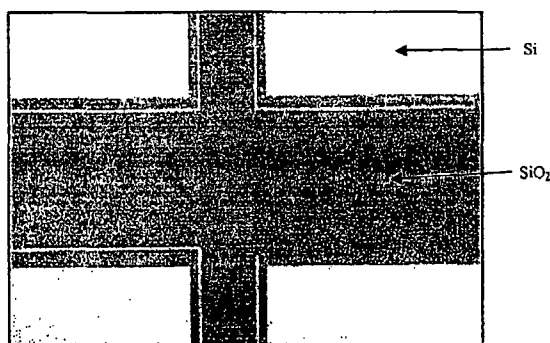
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(54) Title: ENHANCEMENT OF SILICON-CONTAINING PARTICULATE MATERIAL REMOVAL USING SUPERCRITICAL FLUID-BASED COMPOSITIONS



(57) Abstract: A method and composition for removing silicon-containing particulate material, such as silicon nitrides and silicon oxides, from patterned Si/SiO₂ semiconductor wafer surfaces is described. The composition includes a supercritical fluid (SCF), an etchant species, a co-solvent, a surface passivator, a binder, deionized water, and optionally a surfactant. The SCF-based compositions substantially remove the contaminating particulate material from the wafer surface prior to subsequent processing, thus improving the morphology, performance, reliability and yield of the semiconductor device.



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