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(54) Title: METHOD OF CURING HYDROGEN SILSES QUIOXANE AND DENSIFICATION IN NANO-SCALE TRENCHES

(57) Abstract: Trenches in a semiconductor substrate are filled by (i) dispensing a film forming material on the semiconductor substrate and into the trenches; (ii) curing the dispensed film forming material in the presence of an oxidant at a first low temperature for a first predetermined period of time; (iii) curing the dispensed film forming material in the presence of an oxidant at a second low temperature for a second predetermined period of time; (iv) curing the dispensed film forming material in the presence of an oxidant at a third high temperature for a third predetermined period of time; and (v) forming filled oxide trenches in the semiconductor substrate. The film forming material is hydrogen silsesquioxane.

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