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(54) **CONSTRUCTIONS COMPRISING HAFNIUM OXIDE**

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See application file for complete search history.

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(57) **ABSTRACT**

The invention includes methods of forming hafnium-containing materials, such as, for example, hafnium oxide. In one aspect, a semiconductor substrate is provided, and first reaction conditions are utilized to form hafnium-containing seed material in a desired crystalline phase and orientation over the substrate. Subsequently, second reaction conditions are utilized to grow second hafnium-containing material over the seed material. The second hafnium-containing material is in a crystalline phase and/or orientation different from the crystalline phase and orientation of the hafnium-containing seed material. The second hafnium-containing material can be, for example, in an amorphous phase. The seed material is then utilized to induce a desired crystalline phase and orientation in the second hafnium-containing material. The invention also includes capacitor constructions utilizing hafnium-containing materials, and circuit assemblies comprising the capacitor constructions.

15 Claims, 4 Drawing Sheets

