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(54) Title: METHODS OF FORMING A TRANSISTOR WITH AN INTEGRATED METAL SILICIDE GATE ELECTRODE

(57) Abstract: Methods of forming a transistor having integrated metal silicide transistor gate electrode an a semiconductor assembly are described. The transistor gate is partially fabricated by reacting the metal with epitaxial silicon while residing in a trench to form metal silicide. A transistor gate isolation capping layer is formed in the trench and an the metal silicide. Optional trench spacers can be added to reduce the critical dimension restraints of a given fabrication process and thus form a transistor having smaller feature sizes than the critical dimension.

WO 2005/020282 A3