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(54) Title: SELECTIVE FORMATION OF DIELECTRIC ETCH STOP LAYERS

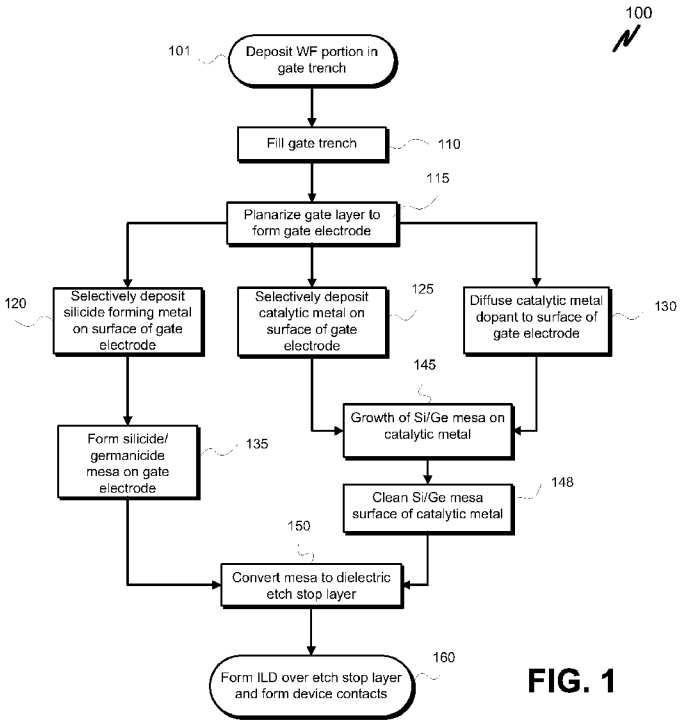


FIG. 1

(57) Abstract: Methods to selectively form a dielectric etch stop layer over a patterned metal feature. Embodiments include a transistor incorporating such an etch stop layer over a gate electrode. In accordance with certain embodiments of the present invention, a metal is selectively formed on the surface of the gate electrode which is then converted to a silicide or germanicide. In other embodiments, the metal selectively formed on the gate electrode surface enables a catalytic growth of a silicon or germanium mesa over the gate electrode. At least a portion of the silicide, germanicide, silicon mesa or germanium mesa is then oxidized, nitridized, or carbonized to form a dielectric etch stop layer over the gate electrode only.

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