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(54) **Title:** BURIED POWER RAIL FOR SCALED VERTICAL TRANSPORT FIELD EFFECT TRANSISTOR

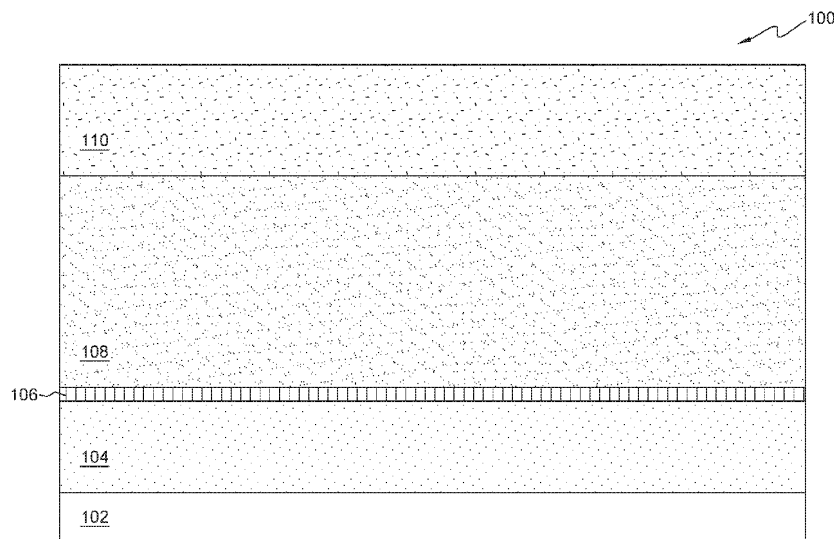


FIG. 1

(57) **Abstract:** A semiconductor structure may include a buried power rail under a bottom source drain of a vertical transistor and a dielectric bi-layer under the bottom source drain. The dielectric bi-layer may be between the buried power rail and the bottom source drain. The semiconductor structure may include a silicon germanium bi-layer under the bottom source drain, the silicon germanium bi-layer may be adjacent to the buried power rail. The semiconductor structure may include a buried power rail contact. The buried power rail contact may connect the bottom source drain to the buried power rail. The dielectric bi-layer may include a first dielectric layer and a dielectric liner. The first dielectric layer may be in direct contact with the bottom source drain. The dielectric liner may surround the buried power rail. The silicon germanium bi-layer may include a first semiconductor layer and a second semiconductor layer below the first semiconductor layer.

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