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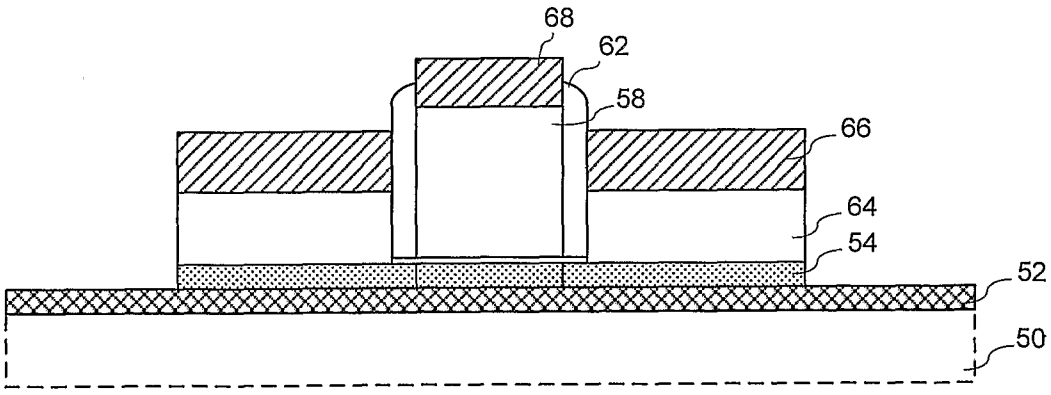
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(54) Title: SEMICONDUCTOR ON INSULATOR SUBSTRATE AND DEVICES FORMED THEREFROM



(57) Abstract: A semiconductor on insulator (SOI) device is comprised of a layer of a dielectric material (52) having a perovskite lattice, such as a rare earth scandate. The dielectric material (52) is selected to have an effective lattice constant that enables growth of semiconductor material (54) having a diamond lattice directly on the dielectric (52). Examples of the rare earth scandate dielectric include gadolinium scandate ($GdScO_3$), dysprosium scandate ($DyScO_3$), and alloys of gadolinium and dysprosium scandate ($Gd_{1-x}Dy_xSc0_3$).

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