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(54) Title: LOW TEMPERATURE N-TYPE CONTACT EPI FORMATION

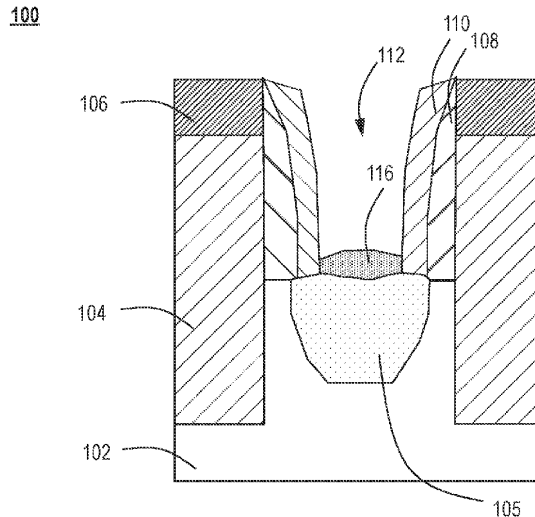


FIG. 4

(57) Abstract: Methods for forming a semiconductor structure and semiconductor structures are described. The method comprises non-selectively depositing an amorphous silicon layer on a top surface and a sidewall surface of at least one contact trench on a substrate and a crystalline silicon layer on a bottom surface of the at least one contact trench at a temperature less than or equal to 400 °C, the bottom surface including a source/drain material. The amorphous silicon layer is selectively removed from the top surface and the sidewall surface at a temperature less than or equal to 400 °C. The method may be performed in a processing chamber without breaking vacuum.

[Continued on next page]

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