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(54) Title: METHOD OF DOPING SILICON WITH PHOSPHORUS AND GROWING OXIDE ON SILICON IN THE PRESENCE OF STEAM

(57) Abstract: A method of doping silicon that involves placing a silicon wafer in spaced relationship to a solid phosphorus dopant source at a first temperature for a time sufficient to deposit a phosphorus-containing layer on the surface of the wafer and subsequently oxidizing the doped silicon wafer with wet oxygen or pyrogenic steam at a second temperature lower than the first temperature. The silicon wafer is maintained in spaced relationship to the solid phosphorus dopant source during the oxidizing step. The temperatures are selected such that the solid phosphorus dopant source evolves P_2O_5 at the first temperature and the second temperature is sufficiently lower than the first temperature to decrease evolution of P_2O_5 from the solid phosphorus dopant source during the oxidizing step.