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(54) **Title**: PENETRATING IMPLANT FOR FORMING A SEMICONDUCTOR DEVICE

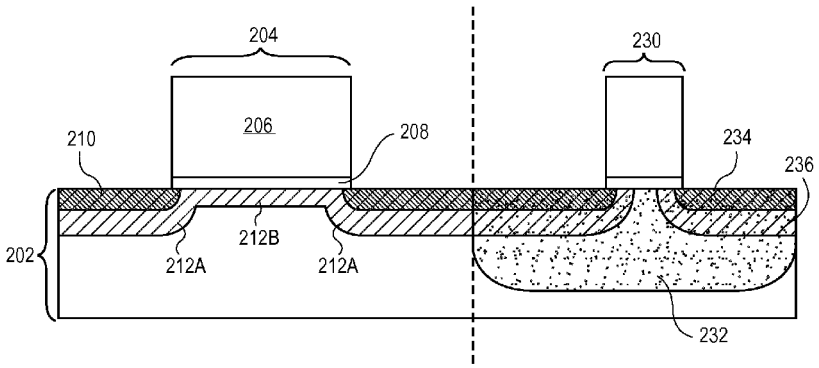


FIG. 2B

(57) **Abstract**: A semiconductor device and method to form a semiconductor device is described. The semiconductor includes a gate stack disposed on a substrate. Tip regions are disposed in the substrate on either side of the gate stack. Halo regions are disposed in the substrate adjacent the tip regions. A threshold voltage implant region is disposed in the substrate directly below the gate stack. The concentration of dopant impurity atoms of a particular conductivity type is approximately the same in both the threshold voltage implant region as in the halo regions. The method includes a dopant impurity implant technique having sufficient strength to penetrate a gate stack.

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