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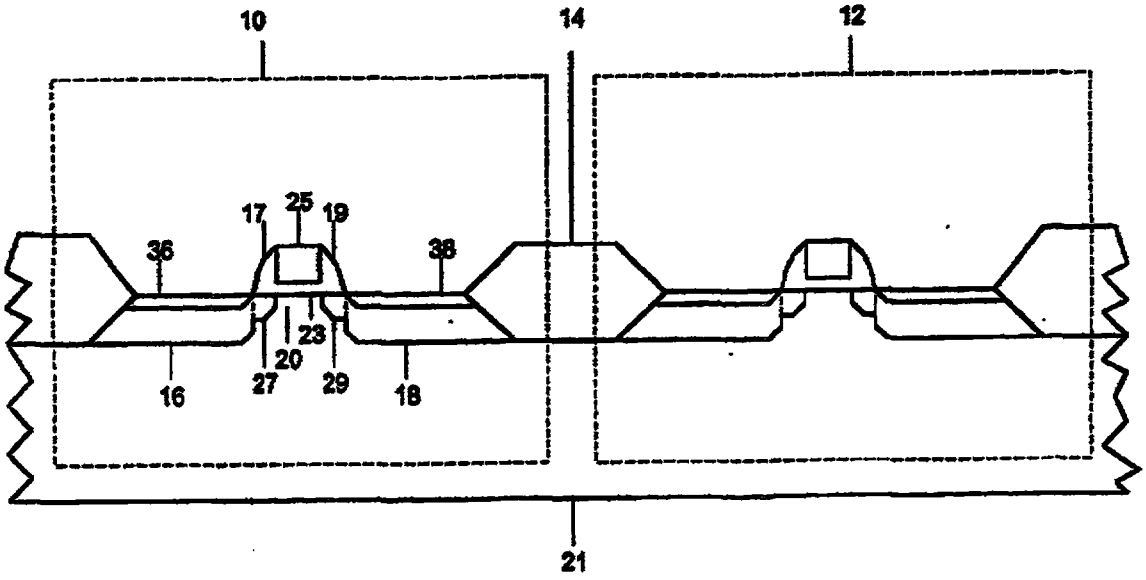
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(54) Title: A PROCESS FOR FABRICATING SEMICONDUCTOR DEVICES WITH SHALLOWLY DOPED REGIONS USING DOPANT COMPOUNDS CONTAINING ELEMENTS OF HIGH SOLID SOLUBILITY



(57) Abstract

A method for manufacturing shallowly doped semiconductor devices (10, 12). In the preferred embodiment, the method includes the steps of: (a) providing a substrate (21) where the substrate material is represented by the symbol Es (element of the substrate); and (b) implanting the substrate (21) with an ion compound represented by the symbol ElxEdy, where El represents an element having high solubility in the substrate material with minimal detrimental chemical or electrical effects and can be the same element as the substrate element, Ed (dopant element) represents an element which is an electron acceptor or donor having high solubility limit in the substrate material, and x and y indicate the number of respective El and Ed atoms in the ion compound.