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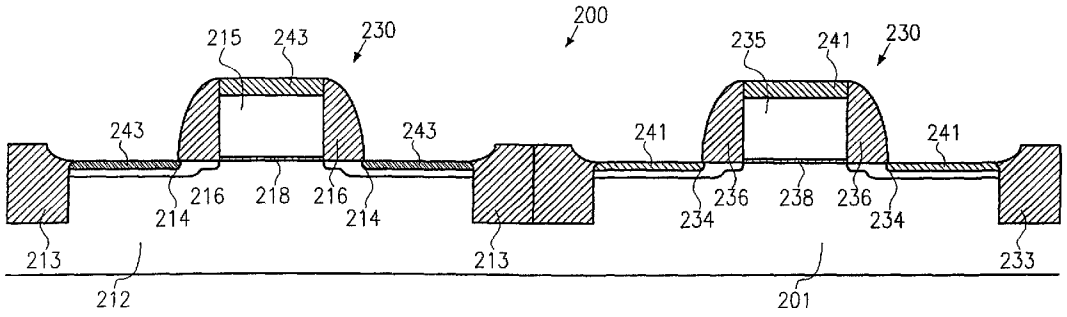
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(54) Title: METHOD OF FORMING DIFFERENT SILICIDE PORTIONS ON DIFFERENT SILICON-CONTAINING REGIONS IN A SEMICONDUCTOR DEVICE



(57) Abstract: A method is disclosed in which different metal layers (240, 242) are sequentially deposited on silicon-containing regions so that the type and thickness of the metal layers (240, 242) may be adapted to specific characteristics of the underlying silicon-containing regions. Subsequently, a heat treatment is performed to convert the metals into metal silicides so as to improve the electrical conductivity of the silicon-containing regions. In this way, silicide portions (241, 243) may be formed that are individually adapted to specific silicon-containing regions so that device performance of individual semiconductor elements or the overall performance of a plurality of semiconductor elements may significantly be improved. Moreover, a semiconductor device is disclosed comprising at least two silicon-containing regions having formed therein differing silicide portions (241, 243), wherein at least one silicide portion comprises noble metal.

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