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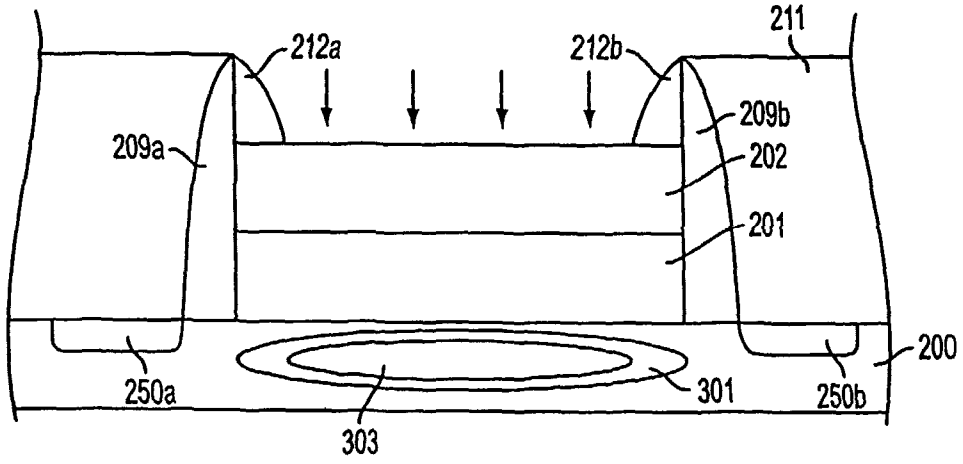
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(54) Title: TRANSISTOR STRUCTURE INCLUDING A METAL SILICIDE GATE AND CHANNEL IMPLANTS AND METHOD OF MANUFACTURING THE SAME



(57) Abstract: The present invention teaches a method of forming a MOSFET transistor having a silicide gate which is not subject to problems produced by etching a metal containing layer when forming the gate stack structure. A gate stack is formed over a semiconductor substrate comprising a gate oxide layer (201), a conducting layer (202), and a first insulating layer (203). Sidewall spacers (209a, 209b) are formed adjacent to the sides of the gate stack structure and a third insulating layer (211) is formed over the gate stack and substrate. The third insulating layer (211) and first insulating layer (203) are removed to expose the conducting layer and, at least one unetched metal-containing layer is formed over and in contact with the conducting layer. The gate stack structure then undergoes a siliciding process with different variations to finally form a silicide gate.

WO 2004/021429 A1

AMENDED CLAIMS

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original claims 1, 2, 4, 7, 13-21, 33, 45-47, 49, 52, 55, 57-61, 63, 69, 74, 79, 84, 86 and 91 replaced by new claims bearing the same numbers; claims 12 and 62 cancelled; remaining claims unchanged (16 pages)]