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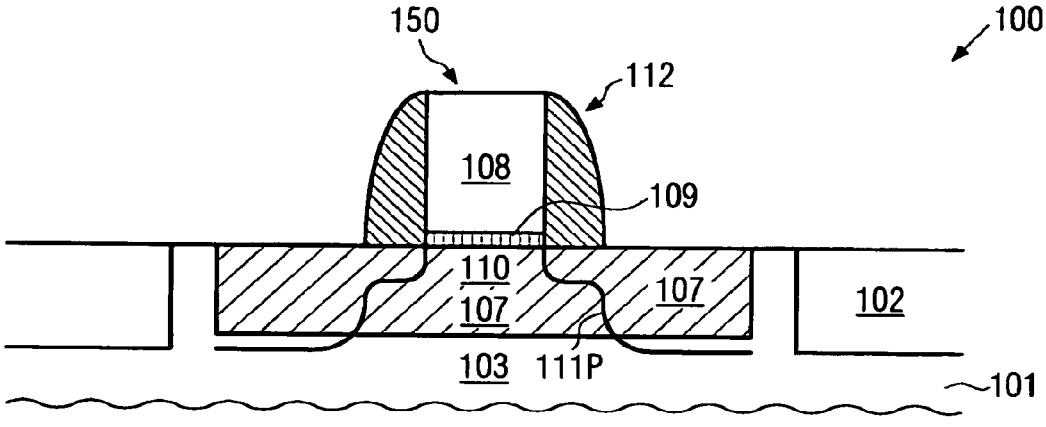
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(54) **Title:** A TRANSISTOR HAVING A STRAINED CHANNEL REGION INCLUDING A PERFORMANCE ENHANCING MATERIAL COMPOSITION



(57) **Abstract:** By forming a semiconductor alloy (107, 107A, 107B, 207A, 207B, 307) in a silicon-based active semiconductor region prior to the gate patterning, material characteristics of the semiconductor alloy itself may also be exploited in addition to the strain-inducing effect thereof. Consequently, device performance of advanced field effect transistors may be even further enhanced compared to conventional approaches using a strained semiconductor alloy in the drain and source regions.

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