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(54) Title: SEMICONDUCTOR APPARATUS AND METHOD FOR FABRICATING THEREOF

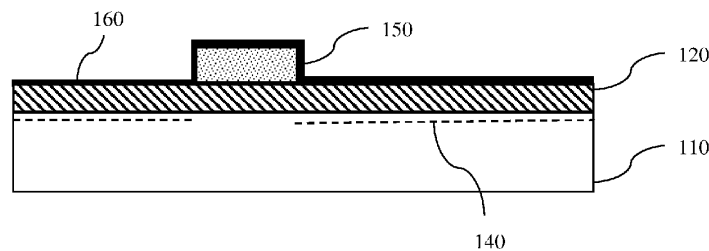


Figure 1c

(57) Abstract: The present invention relates to a semiconductor apparatus (1000). The semiconductor apparatus (1000) includes at least one of a top p-GaN and a p-AlGaIn (130) depleting a 2DEG (140) between a GaN buffer (110) and a AlGaIn barrier (120). The 2DEG (140) appears again at a region without the at least one 10 of the top p-GaN and the p-AlGaIn (130). The remaining p-GaN region is called a p-GaN gate (150) after partially removing the at least one of the top p-GaN and the p-AlGaIn (130). A thin LP-Nitride passivation layer (160) is deposited on a portion of the AlGaIn barrier (120) and a portion of the p-GaN gate (150). After the deposition of the thin LP-Nitride layer (160) on the portion of the AlGaIn barrier (120) and the portion of the p-GaN gate (150), the semiconductor apparatus (1000) applies a re-activation process.F.



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