a 2019 0057

The invention relates to the semiconductor device manufacturing technology, in particular to processes for producing crystalline layers of III-N compounds with p-type electrical conduction on heterogeneous substrates.
The process for producing p-GaN layers comprises the deposition on a heterogeneous substrate of ZnO layers from a solution of zinc acetate dihydrate in ethanol with subsequent thermal treatment at a temperature of 500°C, subsequent deposition of a ZnO precipitate from a solution of zinc nitrate hexahydrate and KOH in distilled water by boiling for 3 hours and thermal treatment also at a temperature of 500°C for 2 hours, with subsequent introduction into the deposition reactor of GaN layers by the HVPE method, where the GaN layer is first deposited at a temperature of 500°C for 15 min, and then the GaN layer itself is deposited at a temperature of 800…1050°C for 25 min.

Claims: 1