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Electrical characterization of Au/Ni/AlGa_N Schottky barrier diodes

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In this study, Au/Ni Schottky barrier contacts have been fabricated on AlGa_N grown by hydride vapor-phase epitaxy (HVPE). After ohmic and Schottky contacts fabrication, the contacts were annealed at 500°C. The electrical characteristics of the diodes were investigated by using current-voltage measurements. The results show that the diodes characteristics improved after annealing, with reverse leakage current dropping to less than 10⁻⁸ A. Furthermore, the analysis of the temperature dependent electrical characteristics shows that the reverse current of the diodes increases with increasing temperature. The barrier height and ideality factors increased and decreased with increasing temperature respectively.

Are you currently a postgraduate student? (Yes/No)

No

At what level of studies are you currently? (Hons/MSc/PhD)

N/A

Please provide the name and email address of your supervisor.

none

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