Abstracts

Profile Studies of Ion-Implanted MESFET's (Dec. 1983 [T-MTT])

J.M.M. Golio and R.J. Trew. "Profile Studies of Ion-Implanted MESFET's (Dec. 1983 [T-MTT])." 1983 Transactions on Microwave Theory and Techniques 31.12 (Dec. 1983 [T-MTT] (1983 Symposium Issue)): 1066-1071.

A study of ion-implanted MESFET performance as a function of the implantation energy and fluency, and including the effects of deep-level trapping-state concentrations in the substrate, has been conducted. Carrier concentrations as a function of depth are determined through the use of LSS theory and a profiling model. An analytic device model, which computes both dc and RF characteristics, is then employed to predict MESFET performances. The study includes the effects of depth-dependent transport properties and has indicated a number of design rules for the fabrication of optimized ion-implanted devices.

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