Abstracts

Millimeter-Wave Planar InP Schottky Diodes and Their Small-Signal Equivalent Circuit

R.E. Neidert and S.C. Binari. "Millimeter-Wave Planar InP Schottky Diodes and Their Small-Signal Equivalent Circuit." 1989 Transactions on Microwave Theory and Techniques 37.11 (Nov. 1989 [T-MTT]): 1694-1698.

Two planar indium phosphide Schottky diode designs have been fabricated and analyzed for millimeter-wave detector applications up to 150 GHz. Device structure and fabrication are discussed and small-signal equivalent circuit models are presented. The following topics are included: the planar InP diode structure fabricated by MeV ion implantation, dc and RF measurements, circuit model values, and 94 GHz small-signal detector performance. The zero-bias detector sensitivity at 94 GHz was measured to be as high as 400 mV/mW, and the calculated tangential signal sensitivity was -56 dBm.

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