Abstracts

Power Increase of Pulsed Millimeter-Wave IMPATT Diodes (Short Papers)

R. Pierzina and J. Freyer. "Power Increase of Pulsed Millimeter-Wave IMPATT Diodes (Short Papers)." 1985 Transactions on Microwave Theory and Techniques 33.11 (Nov. 1985 [T-MTT]): 1228-1231.

The fabrication and encapsulation of single-drift pulsed IMPATT diodes for 73 GHz is described. The transforming properties of the parasitic inductance and capacitance demonstrate the strong influence of diode-mounting technique. The used reduced-height waveguide resonator is described theoretically, giving an indication of optimum matching between resonator and transformed diode impedance. The diodes deliver more than 10-W output power at 73 GHz with 5-percent efficiency, if they are matched to the resonator by proper parasitic.

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