Abstracts

Characteristics of a Coplanar Waveguide HEMT Mount on GaAs Substrate

D. Mirshekar-Syahkal and A. Pote. "Characteristics of a Coplanar Waveguide HEMT Mount on GaAs Substrate." 1993 Transactions on Microwave Theory and Techniques 41.8 (Sep. 1993 [T-MTT] (Special Issue on Modeling and Design of Coplanar Monolithic Microwave and Millimeter-Wave Integrated Circuits)): 1494-1498.

In a special integrated coplanar waveguide HEMT mount, designed for a wide band (1-60 GHz) on-wafer measurement of the characteristics of HEMTs on GaAs, significant power loss as high as 30% of the input power over a range of frequencies is observed. This power loss is mainly attributed to the radiation through two via holes connecting the coplanar waveguide ground planes to the backside metallization in the mount. Based on this assumption, an approximate theoretical model is developed to substantiate the experimental observations.

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