Abstracts

Monolithic GaAs Interdigitated Couplers (Short Papers)

M. Kumar, S.N. Subbarao, R.J. Menna and H.-C. Huang. "Monolithic GaAs Interdigitated Couplers (Short Papers)." 1983 Transactions on Microwave Theory and Techniques 31.1 (Jan. 1983 [T-MTT] (Joint Special Issue on Monolithic Microwave IC's)): 29-32.

This paper deseribes the design, fabrication, and performance of two monolithic GaAs C-band 90° interdlgitiited couplers with 50- and 25-Omega impedances, respectively. A comparison of the performance of' these two couplers shows that the 25-Omega coupler has the advantages of lower loss and bigher fabrication yield. The bafanced amplifier configuration rising 25-Omega couplers will require, a fewer number of elements in the input-output matching circuit of the FET amplifier. The fewer number of matcfdng elements results in great savings in the GaAs real estate for microwave monolithic intergrated circuits (MMIC's). Both the couplers have been fabricated on a 0.1-mm-thick GaAs S1 substrate. The measured results agree quite well with calculated results. The losses of the 50- and 25-Omega couplers are 0.5 and 0.3 dB, respectively, over the 4-8-GHz frequency band.

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