Abstracts

Attenuation of Millimeterwave Coplanar Lines on Gallium Arsenide and Indium Phosphide over the Range 1-60 GHz

W.H. Haydl, J. Braunstein, T. Kitazawa, M. Schlechtweg, P. Tasker and L.F. Eastman. "Attenuation of Millimeterwave Coplanar Lines on Gallium Arsenide and Indium Phosphide over the Range 1-60 GHz." 1992 MTT-S International Microwave Symposium Digest 92.1 (1992 Vol. I [MWSYM]): 349-352.

Extensive attenuation data of coplanar lines on semi-insulating GaAs and InP is presented over the frequency range 1-60 GHz. On-wafer measurements were used to obtain the S-parameters. A ground-to-ground spacing of 30, 60, 90 and 120 mm, typical for that used in todays microwave and millimeterwave integrated circuit applications, was investigated. The center line width (impedance) and the evaporated gold metal thickness were varied. For the frequency range investigated (metal thickness less than 2-3 times the skin depth), the attenuation was found to be inversely proportional to the metal thickness. The attenuation varies with frequency as f/sup n/, with n < 0.5.

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