Abstracts

Analysis of Intermodulation Distortion in GaAs/AiGaAs HBT's

D.A. Teeter, M. Karakucuk, J.R. East and G.I. Haddad. "Analysis of Intermodulation Distortion in GaAs/AiGaAs HBT's." 1992 MTT-S International Microwave Symposium Digest 92.1 (1992 Vol. I [MWSYM]): 263-266.

The purpose of this work is to help explain the third-order intermodulation distortion properties of the heterojunction bipolar transistor at millimeter wave frequencies. By using both measured data and an analytical computer model that includes transit time effects, we have investigated the frequency and bias dependence of the IMD3 intercept point. A computer controlled mechanical tuner system has been used to measure the IMD3 performance of several HBT's from 8 to 16 GHz. A separate active load pull system has been built to characterize the HBT's from 26.5 to 35 GHz. Comparison between theoretical and experimental results is given.

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