Abstracts

An accurate on-wafer deembedding technique with application to HBT devices characterization

S. Bousnina, C. Falt, P. Mandeville, A.B. Kouki and F.M. Ghannouchi. "An accurate on-wafer deembedding technique with application to HBT devices characterization." 2002 Transactions on Microwave Theory and Techniques 50.2 (Feb. 2002 [T-MTT]): 420-424.

An accurate deembedding technique for on-wafer measurements of an active device's S-parameter is presented in this paper. This deembedding technique accounts in a systematic way for effect of all parasitic elements surrounding the device. These parasitic elements are modeled as a four-port network. Closed-form equations are derived for deembedding purposes of this four-port network. The proposed deembedding technique was used to extract small-signal model parameters of a 2/spl times/25 /spl mu/m emitter GaInP/GaAs heterojunction bipolar transistor device, and excellent agreement between measured and model-simulated S-parameter was obtained up to 30 GHz.

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