Abstracts

Efficient Development of Mass Producible MMIC Circuits

E.M. Bastida, G. Donzelli and M. Pagani. "Efficient Development of Mass Producible MMIC Circuits." 1992 Transactions on Microwave Theory and Techniques 40.7 (Jul. 1992 [T-MTT] (Special Issue on Process-Oriented Microwave CAD and Modeling)): 1364-1373.

The state of the art criteria and tools for an efficient development of mass producible MMIC's are discussed with reference to a specific development philosophy. The available yield evaluation systems are then critically analyzed and the results are reported of a systematic functional yield evaluation we performed on a large number of monolithic circuit components. Subsequently a statistically meaningful data base (including both FET equivalent circuit and S parameters) is reported, that we developed for parametric yield evaluation and yield driven design centering. Finally, through a significant example, the possibility is demonstrated of drastically improving the accuracy of the parametric circuit yield forecasts by using a small set of mutually uncorrelated process dependent parameters and by making reference to a physically based semiempirical FET model.

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