Abstracts

On-Wafer Photoconductive Sampling of MMICs

S.-L.L. Huang, E.A. Chauchard, C.H. Lee, H.-L.A. Hung, T.T. Lee and T. Joseph. "On-Wafer Photoconductive Sampling of MMICs." 1992 Transactions on Microwave Theory and Techniques 40.12 (Dec. 1992 [T-MTT] (1992 Symposium Issue)): 2312-2320.

Photoconductive (PC) sampling has been shown to be a very powerful technique for characterizing the high-frequency response of monolithic microwave integrated circuits (MMICs). It also has higher signal sensitivity than other optical sampling techniques. On-wafer PC sampling could significantly reduce the cost of MMIC evaluation and give better accuracy, especially in the millimeter-wave regime. This is the first report of PC test structures being fabricated monolithically with MMIC amplifiers for microwave characterization using PC sampling. Good agreement was obtained between the measured results and those obtained from a conventional network analyzer. The special requirements for achieving on-wafer PC sampling are also discussed.

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