Abstracts

Membrane probe technology for non-destructive thin-film material characterization

A. Pham, A. Mathis, J. Laskar, A.F. Peterson and L. Hayden. "Membrane probe technology for non-destructive thin-film material characterization." 1998 MTT-S International Microwave Symposium Digest 98.2 (1998 Vol. II [MWSYM]): 957-960.

We present the design and development of the membrane probe prototype for nondestructive characterization of thin-film materials. This material membrane probe (MMP) is designed with multiple polyimide coplanar wave guide transmission lines (CPW), which enable effective and accurate on-wafer Thru-Reflect-Line calibration. This MMP significantly improves upon the calibration integrity and measurements over previous results. We have measured dielectric properties of various materials at microwave frequencies and conclusively demonstrate that the MMP can be used to nondestructively characterize thin-film materials.

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