Abstracts

Characterization of thin-film low-dielectric constant materials in the microwave range using on-wafer parallel-plate transmission lines

Ge Song, S. Follonier, A. Knoesen and R.D. Miller. "Characterization of thin-film low-dielectric constant materials in the microwave range using on-wafer parallel-plate transmission lines." 2000 Microwave and Guided Wave Letters 10.5 (May 2000 [MGWL]): 183-185.

A method is presented to measure the dielectric properties of a thin film over a broad microwave frequency range. The parallel-plate transmission line geometry offers both the advantages of pronounced sensitivity to thin-film properties and exact computation of the value of the dielectric constant and the loss tangent. With multiline thru-reflect-line calibration techniques, the dielectric constant and loss tangent are determined to an accuracy better than 4% at 10 GHz.

❑ Return to main document.