Abstracts

Characteristic impedance extraction using calibration comparison

S. Vandenberghe, D.M.M.-P. Schreurs, G. Carchon, B.K.J.C. Nauwelaers and W. De Raedt. "Characteristic impedance extraction using calibration comparison." 2001 Transactions on Microwave Theory and Techniques 49.12 (Dec. 2001 [T-MTT] (Special Issue on 2001 International Microwave Symposium)): 2573-2579.

A robust line impedance identification method is presented in this paper. It determines the characteristic impedance of on-wafer thru-line-reflect (TLR) standards measured after an initial off-wafer line-reflect-match or TLR calibration. The only assumption made is that the obtained trans-wafer error boxes are a cascade of a symmetric probe-related disturbance and a change in reference impedance. The proposed method yields an unbiased estimate of the complex characteristic impedance. Results from coplanar lines on a medium resistivity silicon substrate support the made assumption.

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