Abstracts

Optoelectronic Measurements of Picosecond Electrical Pulse Propagation in Coplanar Waveguide Transmission Lines

N.G. Paulter, D.N. Sinha, A.J. Gibbs and W.R. Eisenstadt. "Optoelectronic Measurements of Picosecond Electrical Pulse Propagation in Coplanar Waveguide Transmission Lines." 1989 Transactions on Microwave Theory and Techniques 37.10 (Oct. 1989 [T-MTT]): 1612-1619.

We present our observations of the effects of coplanar wave-guide transmission lines on the propagation of picosecond electrical pulses rising an optoelectronic time-domain measurement technique. Effects of various test structure design factors in optoelectronic transmission fines such as substrate thickness, thickness of transmission line metallization, discontinuity spacing, ground plane width, pulser/sampler line length, and pulser/sampler geometry on picosecond electrical pulse propagation in microwave/millimeter wave coplanar waveguide transmission lines are discussed and schemes for minimizing the adverse effects of each of the above factors are provided.

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