

Propagation of Gaussian Pulses in Lossy Coplanar Waveguides

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By comparing the results by the modified spectral-domain approach with those by the previous empirical formulas, a new attenuation constant empirical formula is proposed in discussing the conductor and leaky-wave losses associated with a practical coplanar waveguide (CPW) in which the thickness and conductivity of signal strip and ground planes are finite. Based on this new empirical formula, the transient propagation characteristics of Gaussian pulses along a lossy coplanar waveguide are investigated in detail. In particular, the transient propagated pulses calculated by different empirical formulas are discussed and compared with those of the experimental data.

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