Abstracts

Analysis of a New Configuration of Coplanar Stripline (Short Papers)

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A new configuration of coplanar stripline is presented and analyzed. This configuration is derived by augmenting coplanar strip-line with electrically wide lateral ground planes on either side of the balanced pair of signal lines. The ground planes should reduce line-to-line coupling in complex circuits and eliminate the TEO parasitic dielectric slab waveguide mode. Also, the spacing from signal lines to ground planes may be adjusted to change the characteristic impedance. Spectral domain analysis is used to calculate the dispersion characteristics of this transmission line. Furthermore, analytical expressions for quasi-static values of the propagation constant and characteristic impedance of the line are presented. This configuration of CPS should be useful for balanced high impedance lines in MMIC and high speed digital circuits.

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