Abstracts

The Design of Interdigitated Couplers for MIC Applications

V. Rizzoli and A. Lipparini. "The Design of Interdigitated Couplers for MIC Applications." 1978 Transactions on Microwave Theory and Techniques 26.1 (Jan. 1978 [T-MTT]): 7-15.

A straightforward design procedure for microstripline interdigitated directional couplers is outlined. Based on exact, closed-form equations for coupler analysis, a design chart is developed allowing the geometry of the cross section to be found, starting from a prescribed coupling and given bounds on directivity and VSWR. A further chart yields the length of the coupled section once the center-band frequency has been fixed. In this way, a complete picture of coupler performance is made available to the designer so that the necessary tradeoffs between coupling, directivity, and impedance match can be predicted and understood. The accuracy of the design procedure is also discussed in relation with the most important parasitic affecting coupler behavior, such as launching-discontinuity effects and bonding-wire reactances.

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