

Abstracts

Effects of the T-Junction Discontinuity on the Design of Microstrip Directional Couplers (Short Papers)

R.W. Vogel. "Effects of the T-Junction Discontinuity on the Design of Microstrip Directional Couplers (Short Papers)." 1973 Transactions on Microwave Theory and Techniques 21.3 (Mar. 1973 [T-MTT]): 145-146.

The influence of the T-junction effect on the microstrip 3-dB branchline and rat-race directional couplers design has been described. In the proposed method, the T-junction equivalent circuit similar to the circuit used by Franco and Oliner for the symmetric stripline junction is applied. Simple design expressions that combine the modified characteristic impedance and electrical length of the coupler arm with the equivalent parameters of the T-junction are given. These expressions are helpful in the determination of the microstrip coupler dimensions. The experimental verification of an improvement of the design procedure is also included.

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