Abstracts

Equivalent Capacitances of Microstrip Open Circuits

The integral equations that describe the charge distribution near an open-circuited microstrip end are formulated and subsequently solved by a projective method. The solution hinges on development of computationally efficient techniques for dealing with the singularities that occur by special quadrature formulas. The necessary formulas are described and tabulated. These techniques are then used to find open-circuit capacitance values for microstrip. It is found that the curves of excess capacitance versus width are easily describable by empirical equations; such equations are presented, along with the curves themselves. For strip widths between 0.1 and 10 times the substrate thickness and for dielectric constants in the range 1-51, the given data are believed accurate to within a few percent.

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