Abstracts

Optimum Impedance and Dimensions for Strip Transmission Line

K.S. Packard, Jr.. "Optimum Impedance and Dimensions for Strip Transmission Line." 1957 Transactions on Microwave Theory and Techniques 5.4 (Oct. 1957 [T-MTT]): 244-247.

This paper makes use of the higher mode limitations on the dimensions of symmetrical strip transmission line to derive the permissible dimensions at any given frequency and characteristic impedance. In conjunction with Cohn's results for the attenuation in strip transmission line these are used to obtain the maximum achiew able Q at any frequency and the optimum characteristic impedance; that is, the impedance providing the lowest attenuation. This provides the basis for selecting the characteristic impedance for resonant elements in strip line filters and other applications wherein the lowest possible attenuation is desired. Conclusions are also reached regarding the best form factor (ratio of strip thickness to ground-plane spacing) for a given characteristic impedance.

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