

Abstracts

Analysis of the Characteristics of an Earthed Fin Line

A. Beyer. "Analysis of the Characteristics of an Earthed Fin Line." 1981 Transactions on Microwave Theory and Techniques 29.7 (Jul. 1981 [T-MTT]): 676-680.

This paper presents a theoretical and experimental investigation of the effective permittivity and the characteristic impedance of the earthed unilateral fin line. Using the Ritz-Galerkin method, the eigenvalue equation for a fin line with finite metallization thickness as well as a longitudinal slit in the metal waveguide mount is derived. The numerical solution converges very rapidly in all the cases investigated. Experimental checks are reported, which verify the results of this method and stress the importance of the effects of the finite metallization thickness and longitudinal slit in the mount at higher frequencies. The theoretical results are compared with results by Hofmann, and they are found to correspond closely.

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