Abstracts

Theoretical Analysis of a Ridged-Waveguide Mounting Structure (Short Papers)

The driving-point impedance of a single-gap thin conductor strip, a model of the ribbon-and-pedestal of diode package, mounted across the gap of a ridged waveguide has been derived using the induced EMF method. The dyadic Green's function for the ridged waveguide is derived to facilitate the analysis. An equivalent circuit is developed which involves an infinite array of transformers representing the couplings between the conductor strip and the waveguide normal modes. Numerical results for a typical example are presented to discuss the validity of the analytical results and also to demonstrate a remarkably smooth behavior of the driving-point impedance of the mount over a frequency range from 5.4 to 25.4 GHz.

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