Abstracts

Theoretical Analysis of a Ridged-Waveguide Mounting Structure

S. Mizushina, N. Kuwabara and H. Kondoh. "Theoretical Analysis of a Ridged-Waveguide Mounting Structure." 1977 MTT-S International Microwave Symposium Digest 77.1 (1977 [MWSYM]): 442-444.

The driving-point impedance of a single-gap thin conductor strip, a model of the ribbon-and-pedestal of device 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 was derived to facilitate the analysis. An equivalent circuit was developed which involved an infinite array of transformers representing the couplings between the conductor strip and the waveguide normal modes. Numerical results for a typical example were also given, demonstrating a remarkably smooth behavior of the driving-point impedance of the mount over a frequency range from 5.4 GHz to 25.4 GHz.

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