Abstracts

Guidance and Leakage Properties of Offset Groove Guide

P. Lampariello, F. Frezza, H. Shigesawa, M. Tsuji and A.A. Oliner. "Guidance and Leakage Properties of Offset Groove Guide." 1987 MTT-S International Microwave Symposium Digest 87.2 (1987 Vol. II [MWSYM]): 731-734.

A new leaky-wave structure, the offset groove guide, is analyzed accurately by two completely different methods: a novel tee-junction equivalent network approach and a numerical mode-matching procedure. The new structure is discussed first, and it is then shown that the numerical values for the propagation characteristics obtained by each method agree very well with each other, When the offset metal walls are finite in height, an unexpected additional set of leaky modes is present that can couple to the expected offset-groove-guide leaky mode and produce quite complicated but interesting modal behavior. This behavior is discussed as a function of offset and wall height.

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