Abstracts

Design and Analysis of the Channel Waveguide Transformer

P.H. Siegel, D.W. Peterson and A.R. Kerr. "Design and Analysis of the Channel Waveguide Transformer." 1983 Transactions on Microwave Theory and Techniques 31.6 (Jun. 1983 [T-MTT]): 473-484.

The authors describe an easily fabricated H-plane transformer for use in rectangular waveguide carrying the dominant mode. An approximate theoretical analysis of the structure is presented, and computed results are compared with measurements on transformers at X-band. Design curves are given for transitions from full to one-haff, one-third, and one-quarter height waveguide. The new transformers have been found particularly useful for millimeter-wave mixers and multipliers employing split-block construction. The structure can also be used as a transition from rectangular to channel waveguide.

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