Abstracts

Optimized Waveguide E-Plane Metal Insert Filters for Millimeter-Wave Applications

R. Vahldieck, J. Bornemann, F. Arndt and D. Grauerholz. "Optimized Waveguide E-Plane Metal Insert Filters for Millimeter-Wave Applications." 1983 Transactions on Microwave Theory and Techniques 31.1 (Jan. 1983 [T-MTT] (Joint Special Issue on Monolithic Microwave IC's)): 65-69.

A design theory is described for rectangular waveguide metal insert filters that includes both higher order mode interaction and finite thickness of the inserts. Optimized design data for three- to five-resonator type filters with severaf insert thicknesses suitable for metal stamping and etching techniques are given for midband frequencies of about 15, 33, 63, and 75 GHz. Measured passband insertion losses of prototypes for mid-band frequencies of 15, 33, and 76 GHz are 0.2, 0.6, and 0.7 dB, respectively.

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