Abstracts

Interdigital Band-Pass Filters

G.L. Matthaei. "Interdigital Band-Pass Filters." 1962 Transactions on Microwave Theory and Techniques 10.6 (Nov. 1962 [T-MTT]): 479-491.

The design of band-pass filters using interdigital arrays of resonator line elements between parallel ground planes is discussed. Two approximate design procedures are described, both of which permit design directly from lumped element, low-pass, prototype filters. Both design procedures will work for either narrow or wide-band filters, but one procedure gives more practical dimensions for filters having wide bandwidths (such as an octave), while the other gives more practical dimensions for filters having narrow or moderate bandwidth. The resulting filters are very compact, have relatively noncritical manufacturing tolerances, and strong stop bands with the second pass band centered at three times the center frequency of the first pass band. The dimensions and measured performance curves are presented for a 10 per cent bandwidth design and an octave bandwidth design.

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