Abstracts

Bandpass Filters with Steep Skirt Selectivity

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Low-pass constant-k filters and exact insertion-loss filters of the Butterworth or Tchebycheff types have long been used as prototype sections for bandpass filters in the microwave region. Such filters having LC ladder structures can be readily transformed into coupled-cavity bandpass microwave filters. Such basic low-pass prototypes having monotonically increasing rejection characteristics will contain many circuit elements when sharp cutoff characteristics are required. The introduction of m-derived sections, or the synthesis of prototype filters exhibiting Tchebycheff ripple characteristics in the stop band, reduces the number of elements. These filters are no longer simple ladder networks and, when transformed to yield bandpass or band-reject characteristics, contain complex arrangements of circuit elements which cannot be readily realized as a microwave structure.

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