Abstracts

Peak Internal Fields in Direct-Coupled-Cavity Filters

L. Young. "Peak Internal Fields in Direct-Coupled-Cavity Filters." 1960 Transactions on Microwave Theory and Techniques 8.6 (Nov. 1960 [T-MTT]): 612-616.

Microwave filters are limited in their power-handling capacity by high fields generated inside the filter. Simple formulas are derived here for the peak fields inside each cavity of a direct-coupled-cavity filter at any frequency. The computed peak fields in each cavity of a three-cavity, a four-cavity, and a six-cavity filter as a function of frequency are reproduced up to several harmonics. Inside the pass band, the internal fields are generally minimum at center frequency, rising to sharp peaks just outside the pass band. Phase characteristics were also computed, and their relation to the internal field amplitudes is explained.

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