Abstracts

Synthesis of an Optimum Impedance Transformer

H.J. Riblet. "Synthesis of an Optimum Impedance Transformer." 1976 MTT-S International Microwave Symposium Digest of Technical Papers 76.1 (1976 [MWSYM]): 128-130.

This paper considers the problem of optimizing the match between a generator and a resistive load by means of a transformer consisting of equal length line sections alternating with the same length, shunted, shorted stubs. It is argued that, in the optimum transformer, only that stub appears which is in shunt with the low impedance termination. General design formulas are given for a two section transformer with equi-ripple performance over the design band. For an octave band and a two to one transformation, it is shown that this stepped, shunted transformer has substantially superior performance to that of a conventional stepped transformer of the same length. Detailed computations are made in this case which indicate the extent to which this equi-ripple design is optimum.

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