

Abstracts

An Exact Analysis of Varactor Frequency Multipliers (Correspondence)

C.C.H. Tang. "An Exact Analysis of Varactor Frequency Multipliers (Correspondence)." 1966 *Transactions on Microwave Theory and Techniques* 14.4 (Apr. 1966 [T-MTT]): 210-212.

A novel yet simple approach to the exact analysis of an abrupt-junction frequency doubler is presented, utilizing the fact that the voltage is proportional to the square of the charge. Penfield and Rafuse were the first to consider the problem in an exact analysis. By imposing certain constraints they obtained useful design information with the aid of a large-scale computer. Through different constraints, the present analysis also offers an exact analysis, but the solution is expressed in a closed form. The series model of incremental elastance $S(t)$ and resistance $R_{\text{sub } s}$ is shown in the circuit of Fig. 1.

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