Abstracts

Measurement of Crystal Impedances at Low Levels

H.N. Dawirs and E.K. Damon. "Measurement of Crystal Impedances at Low Levels." 1956 Transactions on Microwave Theory and Techniques 4.2 (Apr. 1956 [T-MTT]): 94-96.

It is very important to know the impedances of crystal diodes when constructing circuits such as mixers and detectors in which the crystals are used. It is always difficult to measure these impedances due to the nonlinear characteristics of the crystals but it is most difficult to make the measurements at minimum levels at which the crystals operate, since with such methods as the slotted line, the detector must operate at a still lower level to obtain the required probe decoupling. Thus, since the load whose impedance is being measured is itself a crystal operating at its minimum level, it is practically impossible to obtain a detector with sufficient sensitivity to make the measurement. Crystal impedances at these minimum levels are of utmost importance as it is here that optimum matching is essential for maximum sensitivity.

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