Abstracts

A Switch-Detector Circuit

F.S. Coale. "A Switch-Detector Circuit." 1955 Transactions on Microwave Theory and Techniques 3.6 (Dec. 1955 [T-MTT]): 59-62.

Crystal circuit is used wherein switching is accomplished by varying dc voltage across a crystal. Impedance of crystal plus its mount varies from low inductive to high capacitive value. Maximum attenuation frequency of high-pass, series m-derived filter varies with change of parallel inductance or capacitance. If crystal is placed across parallel capacitance, and its bias varied, input impedance of filter is changed. As a result, attenuation vs frequency characteristics are varied. Operating parameters of switch are: frequency, 500-1,000 mc; bandwidth, 20 mc; switching, >55 db; average insertion loss, 2 db; switching time, <½ µsec; bias voltage, between -0.6 and +0.6 volts. This unit finds application in radar jamming problems, as well as a low power modulator for rf signals.

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