Abstracts

Improvement in the Square Law Operation of 1N23B Crystals from 2 to 11 kmc

A. Staniforth and J.H. Craven. "Improvement in the Square Law Operation of 1N23B Crystals from 2 to 11 kmc." 1960 Transactions on Microwave Theory and Techniques 8.1 (Jan. 1960 [T-MTT]): 111-115.

Crystal rectifiers have been used for many years as video detectors in microwave measurements. In most of the applications the detection characteristic at low level is assumed to be square law. It is well known that, in general, this assumption is not justified, particularly if reasonable accuracy is desired. The conditions required to increase the dynamic range over which square law response may be achieved have been investigated experimentally. Results obtained in this laboratory have indicated that a forward bias current of 100 microamperes or more with a low video load resistance made the operation of the crystal closer to the ideal square law over a larger dynamic range.

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