Abstracts

Pulse-Operated Circulator Switch (Correspondence)

L. Freiberg. "Pulse-Operated Circulator Switch (Correspondence)." 1961 Transactions on Microwave Theory and Techniques 9.3 (May 1961 [T-MTT]): 266-266.

One of the major disadvantages of employing a ferrite circulator as a microwave switch is the holding current required to maintain the circulator in the switched position. One solution to this problem, reported by Levey and Silber, is the utilization of ferrite tubes as the differential phase shift element in a circulator. Switching is accomplished with a single pulse of current which reverses the magnetization in the closed ferrite tubes, and by virtue of the closed magnetic path, remains permanently magnetized in this new state. Using this technique, microsecond switching speeds have been obtained. This approach requires a ferrite that has both the requisite microwave and dc magnetic characteristics which all too often are unattainable in a commercially available material and necessitates the development of a special material.

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