Abstracts

Lightweight Y-Junction Strip-Line Circulator (Correspondence)

L. Freiberg. "Lightweight Y-Junction Strip-Line Circulator (Correspondence)." 1960 Transactions on Microwave Theory and Techniques 8.6 (Nov. 1960 [T-MTT]): 672-672.

In a recent issue, the practical realization of a Y-junction strip-line circulator was described which used disks of yttrium iron garnet located at the junction of the Y, magnetically biased above resonance at approximately 2200 gauss. By using a material with a lower saturation magnetization (magnesium, manganese, aluminum ferrite, 4piM=600) we have reduced the bias field required to approximately 190 gauss for frequencies in the 2-kMc range and to approximately 800° gauss for frequencies in the 1-kMc range, thus reducing considerably the weight of the circulator. If the circulator is to be operated as a switch, the reduced field requirements permit faster switching times or, for a given switching time, a considerable reduction in power supply requirements.

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