# Abstracts

## Thin-Film Lumped-Element Circulator (Correspondence)

*R.H. Knerr. "Thin-Film Lumped-Element Circulator (Correspondence)." 1969 Transactions on Microwave Theory and Techniques 17.12 (Dec. 1969 [T-MTT]): 1152-1154.*

A photolithographically produced lumped-element circulator is described. Complete physical and electrical symmetry is assured by interweaving the junction conductors using either dielectricor air crossovers and by employing symmetrically configured interdigital capacitors. Series resonant matching circuits compatible with photoetching techniques are proposed. The device is designed for operation at fields below the field for gyromagnetic resonance so that all of the circulator elements, as well as connecting circuitry, may be generated on the ferrite as a substrate without the necessity of magnetizing the entire substrate. This approach, which is applicable to any stripline configuration, makes it feasible to produce lumped element circulators for microwave integrated circuits at frequencies well above the range for previously reported lumped-element devices consisting of an assemblage of discrete components.

❑ Return to main document.