Abstracts

Broad-Band Stripline Circulators Based on YIG and Li-Ferrite Single Crystals

E. Schloemann and R.E. Blight. "Broad-Band Stripline Circulators Based on YIG and Li-Ferrite Single Crystals." 1986 Transactions on Microwave Theory and Techniques 34.12 (Dec. 1986 [T-MTT] (1986 Symposium Issue)): 1394-1400.

The useful operating range of circulators has been extended by avoiding the "low-field loss" problems usually associated with operating at frequencies smaller than the magnetization frequency f/sub M/, through the use of a device configuration that assures a nearly uniform internal magnetic field. Performance data on experimental stripline circulators using single-crystal YIG or Li-ferrite disks and external YIG (or Li-ferrite) domes (for achieving a nearly uniform internal magnetic field) are summarized and compared with theoretical expectations. Reasonably good circulator performance is observed in the frequency range from 2.8 to 10.20 GHz for the circulator based on YIG and in the frequency range from 5.8 GHz to 18 GHz for the circulator based on Li-ferrite. The external ferrite domes improve the performance significantly when the frequency is near the lower edge of the operating band.

❑ Return to main document.