Abstracts

Broad-Band Ridge Waveguide Ferrite Devices

E.S. Grimes, Jr., D.D. Bartholomew, D.C. Scott and S.C. Sloan, Jr.. "Broad-Band Ridge Waveguide Ferrite Devices." 1960 Transactions on Microwave Theory and Techniques 8.5 (Sep. 1960 [T-MTT]): 489-492.

The design and development of a medium CW power level, 1.57:1 bandwidth, quadruply-ridged circular waveguide Faraday rotator and two high CW power, 2:1 bandwidth, double ridge rectangular waveguide isolators are discussed. The rotator is designed in quadruply-ridged circular waveguide with a ferrite configuration somewhat different from that proposed by other investigators. It can be made to exhibit broadband rotation and large rotation per unit length of ferrite section, and maybe used in most medium CW power level applications. Forty-five degree rotation is achieved over the 7.0-kMc to 11.0-kMc band. The isolators operate from 2.0 kMc to 4.0 kMc in DR-37 waveguide and from 3.8 kMc to 7.6 kMc in D-34 waveguide respectively. The reverse to forward wave attenuation ratio exceeds 10.0 db to 1.0 db for both isolators.

❑ Return to main document.