Abstracts

An X-Band Reciprocal Latching Faraday Rotator Phase Shifter

R.G. Roberts. "An X-Band Reciprocal Latching Faraday Rotator Phase Shifter." 1970 G-MTT International Microwave Symposium Digest of Technical Papers 70.1 (1970 [MWSYM]): 341-345.

Industry has given considerable attention to the development of low-cost phase shifters to be used as beam steering elements in phased array radars. Latching reciprocal ferrite phase shifters have received special attention because of the following considerations: (1) they can handle relatively high peak and average power levels, (2) they require no bias to maintain a phase setting, and (3) their reciprocal nature allows transmitting and receiving functions to occur without resetting the array. This paper presents a technique for obtaining a low loss X-band reciprocal latching ferrite phase shifter. The phase shifter is described by first considering the propagation constant of the circularly-polarized phase shift section and then discussing the nonreciprocal circular polarizers which are necessary to obtain reciprocal phase shift. The theoretical and experimental results of the phase shifter are then presented.

❑ Return to main document.