Abstracts

A New Type of Latching, Switchable, Ferrite-Junction Circulator (1967 [MWSYM])

W.W. Sienkanowicz and W.A. Schilling. "A New Type of Latching, Switchable, Ferrite-Junction Circulator (1967 [MWSYM])." 1967 G-MTT International Microwave Symposium Program and Digest 67.1 (1967 [MWSYM]): 77-80.

For a long time, ferrite-junction circulators required an externally applied dc magnetic field provided by either permanent magnets or electromagnets. Recently, significant progress has been made in the development of switchable, latching, single-function, ferrite circulators in waveguide and stripline circuits. This paper presents approximate theoretical results and initial performance data on a new type of circulator, a three-part, strip-line, latching, switchable circulator illustrated schematically in Fig. 1. This circulator employs two latched ferrite elements placed between a central conductor and two ground planes. Each element provides a closed magnetic path through the ferrite cylinder and ring, and two ferrite or high-remanence metal discs. The ferrite operates at remanence after passage of a direct current pulse. Switching (i. e., reversal of transmitting and isolating parts) is achieved by reversal of the polarity of the pulse.

❑ Return to main document.