Abstracts

All Garnet Microstrip Circulators for Integrated Circuits

B. Hershenov. "All Garnet Microstrip Circulators for Integrated Circuits." 1967 G-MTT International Microwave Symposium Program and Digest 67.1 (1967 [MWSYM]): 142-144.

In a recent report by the author results were presented for an X-band 3-port microstrip circulator. A YIG disc was embedded in a ceramic substrate and copper lines, disc, and ground plane were deposited on this composite substrate. Figure 1 is a photograph of a typical microstrip circulator. Unfortunately, cementing a YIG disc into a ceramic substrate is not an ideal approach to integrated microwave circuits. Ideally, an all garnet substrate would be more practical by combining simplicity of design with ease of fabrication. This paper reports the results obtained with all garnet substrate 3-port microstrip circulators. Results are reported using an electromagnet and a small permanent magnet. In addition, a latched version of a microstrip circulator was built and successfully tested. The latched version lends itself to simple mass production techniques.

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