Abstracts

A New Type of Isolator for Millimeter-Wave Integrated Circuits Using a Nonreciprocal Traveling-Wave Resonator

M. Muraguchi, K. Araki and Y. Naito. "A New Type of Isolator for Millimeter-Wave Integrated Circuits Using a Nonreciprocal Traveling-Wave Resonator." 1982 Transactions on Microwave Theory and Techniques 30.11 (Nov. 1982 [T-MTT]): 1867-1873.

A nonreciprocal traveling-wave resonator critically coupled to a waveguide becomes an isolator with high isolation. The dielectric image-line isolator with a magnetized ferrite pillbox as the nonreciprocal traveling-wave resonator is described. The validity of the theory is verified by experiments earned out at the 50-GHz range. The theoretical and experimental estimations of the coupling coefficient between a pillbox resonator and a straight dielectric waveguide are also included.

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