Abstracts

A New MIC Magic-T Using Coupled Slot Lines

M. Aikawa and H. Ogawa. "A New MIC Magic-T Using Coupled Slot Lines." 1980 Transactions on Microwave Theory and Techniques 28.6 (Jun. 1980 [T-MTT]): 523-528.

Novel microwave integrated circuit (MIC) 180° hybrids (magic-T's) suitable for MIC are described. They make use of the two orthogonal modes (even and odd) of the coupled slot lines, and, therefore, have special port location, which is quite different from that of the conventional 180° hybrids such as a rat-race. That is, the two-ports, which correspond to the E-arm and the H-arm of the well-known waveguide magic-T, can be located on the same side, opposite to the other two ports. This feature is of a great practical advantage when applied to an MIC, because the crossing of the transmission lines can be omitted when this type of magic-T is applied to balanced-type circuits such as balanced mixers. Satisfactory experimental results at a center frecuency of 6 GHz are given. The isolation between the E- and the H-ports is better than 30 dB over an octave band, and the frequency sensitivity of the coupling is almost flat in the frequency range from 2 to 10 GHz.

❑ Return to main document.