Abstracts

Experimental Study of Dielectric Waveguide Y-Junctions for Millimeter-Wave Integrated Circuits

K. Ogusu. "Experimental Study of Dielectric Waveguide Y-Junctions for Millimeter-Wave Integrated Circuits." 1985 Transactions on Microwave Theory and Techniques 33.6 (Jun. 1985 [T-MTT]): 506-509.

Symmetric and asymmetic Y-junctions have been fabricated from rectangular dielectric image line, and the transmission and reflection characteristics have been measured in the 20-26-GHz range. The tested symmetric Y-junction operates as a near 3-dB power divider for the junction half-angle below ~20°. The maximum allowable junction angle of the symmetric Y-junction is discussed, which is very important for millimeter-wave integrated-circuit applications. It is shown that the asymmetric Y-junction can be used as a directional coupler because of the controllable splitting ratio and high isolation. The results for the asymmetric Y-junction with a gap are also presented.

❑ Return to main document.