Abstracts

dc to 40 GHz Coaxial-to-Microstrip Transition for 100-µm-Thick GaAs Substrates (Short Papers)

J. Chenkin. "dc to 40 GHz Coaxial-to-Microstrip Transition for 100-µm-Thick GaAs Substrates (Short Papers)." 1989 Transactions on Microwave Theory and Techniques 37.7 (Jul. 1989 [T-MTT]): 1147-1150.

The design, design approach, and test results are presented for a simple coaxial-to-microstrip transition. The approach provides improved performance over the basic coaxial-to-microstrip transition by causing a TEM-to-quasi-TEM transformation through a tapering of the coaxial line for 432±51 µm (<= 6 percent of lambda/sub 0/ at 40 GHz) prior to impinging a portion of the resultant quasi-TEM field directly across the microstrip's dielectric at the coaxial-microstrip interface. Tests show that the return loss for the transition into a 50 Omega microstrip line on a 100-µm-thick GaAs substrate is better than 16.9 dB per transition from 200 MHz to 40 GHz. A cover having a height of 1.9 mm and a width of 2.6 mm had little or no influence on test results.

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