Abstracts

Phase-Shift Characteristics of Helical Phase Shifters

R. Seckelmann. "Phase-Shift Characteristics of Helical Phase Shifters." 1966 Transactions on Microwave Theory and Techniques 14.1 (Jan. 1966 [T-MTT]): 24-28.

The phase shifters considered consist of a helix surrounded by or surrounding a ferrite toroid. The ferrites work at their maximum remanent magnetization. It is shown that the helix surrounding a ferrite allows at any combination of frequency and helix diameter a larger differential phase shift than the helix surrounded by a ferrite does; and that in the latter helix the phase shift is easily disturbed by the TE/sub 11/ mode. It is furthermore shown that the 3lambda/4 per turn helix offers a larger fractional bandwidth than the lambda/4 per turn helix does unless one uses ferrites with very low saturation magnetization. The theoretical results are supplemented by experimental data.

❑ Return to main document.