Abstracts

A Novel Type of Constant Impedance Traveling Wave Phase Shifter for InP-Based MMICs (1996 [MCS])

R. Kremer, S. Redlich, L. Brings and D. Jager. "A Novel Type of Constant Impedance Traveling Wave Phase Shifter for InP-Based MMICs (1996 [MCS])." 1996 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 98. (1996 [MCS]): 197-200.

The paper presents a novel type of externally controllable phase shifter based on periodic coplanar transmission lines consisting of Schottky contact (SCCPL) and coplanar sections on passive substrate. The modeling of the devices is carried out by utilizing a four-pole representation of the underlying pi-sections. An optimized InP/InGaAs/InAlAs layer structure for the SCCPL is developed providing an external electronic control. Measured phase shifts up to 60°/mm at 20GHz with a line impedance of 48 ± 1.2Omega agree well with theoretical calculations.

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