Abstracts

Measurements and Modeling of Kinetic Inductance Microstrip Delay Lines (Dec. 1987 [T-MTT])

J.M. Pond, J.H. Claassen and W.L. Carter. "Measurements and Modeling of Kinetic Inductance Microstrip Delay Lines (Dec. 1987 [T-MTT])." 1987 Transactions on Microwave Theory and Techniques 35.12 (Dec. 1987 [T-MTT] (1987 Symposium Issue)): 1256-1262.

Superconducting microstrip, with phase velocities of about 0.01c, employing kinetic inductance have been fabricated using niobium nitride and a silicon dielectric. Delay lines using this phenomenon have several advantages for analog signal processing, including low loss and very compact size. Measurements of kinetic inductance microstrip delay lines were made in the frequency domain and the time domain. The results were compared to theoretical predictions and an accurate circuit model was developed. The circuit model was used to determine the frequency- and temperature-dependent losses of the delay line.

❑ Return to main document.