Abstracts

Theoretical and Experimental Investigation of Novel Varactor-Tuned Switchable Microstrip Ring Resonator Circuits

T.S. Martin, F. Wang and K. Chang. "Theoretical and Experimental Investigation of Novel Varactor-Tuned Switchable Microstrip Ring Resonator Circuits." 1988 Transactions on Microwave Theory and Techniques 36.12 (Dec. 1988 [T-MTT] (1988 Symposium Issue)): 1733-1739.

A novel microstrip ring resonator circuit loaded with two p-i-n diodes has been developed as a switcbable filter. By replacing one p-i-n diode with a varactor diode, the switchable filter can be made electronically tunable. Isolation exceeding 20 dB with 9 percent tuning bandwidth was demonstrated. An analysis based on transmission line theory was used to model both circuits. The analysis includes the effects of diode parasitic, coupling gaps, dispersion, and mounting gap capacitance. The experimental results agree very well with the theoretical calculation.

❑ Return to main document.