Abstracts

Transmission Properties of Metal-Semiconductor-Relaxor Microstrip Lines

H.H. Fiallo, J.P. Dougherty, S.-J. Jang, R.E. Newnham and L.A. Carpenter. "Transmission Properties of Metal-Semiconductor-Relaxor Microstrip Lines." 1994 Transactions on Microwave Theory and Techniques 42.7 (Jul. 1994, Part I [T-MTT]): 1176-1182.

The transmission characteristics of multilayer ferrite-high-K microstrip lines have been calculated by means of the parallel-plate waveguide approximation. The relaxation behavior of the dielectric permittivity and permeability have been taken into account by using the Debye and the Maxwell-Wagner relaxation models. The results demonstrate that these lines can be used as very small size delay lines and low-pass filters that can be tuned by adjusting the layer thickness ratio, the resistivity of the semiconductor layer, and the difference between the permittivity-permeability product of each layer.

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