Abstracts

Microwave Measurement of the Temperature Coefficient of Permittivity for Sapphire and Alumina (Short Papers)

J.E. Aitken, P.H. Ladbrooke and M.H.N. Potok. "Microwave Measurement of the Temperature Coefficient of Permittivity for Sapphire and Alumina (Short Papers)." 1975 Transactions on Microwave Theory and Techniques 23.6 (Jun. 1975 [T-MTT]): 526-529.

Measurements of the temperature coefficients of permittivity and of thermal expansion, for the important MIC substrate materials alumina and sapphire, are reported. The results are presented and in the case of sapphire include figures for the two main crystal orientations. An interesting correlation exists between our results for alumina substrates, and those for sapphire substrates in which the optical axis is perpendicular to the plane of the slice. The temperature stability of resonators on sapphire and alumina is discussed and experimental data are presented.

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