Abstracts

Low voltage tunable barium strontium titanate thin film capacitors for RF and microwave applications

A. Tombak, F. Tito Ayguavives, J.-P. Maria, G.T. Stauf, A.I. Kingon and A. Mortazawi. "Low voltage tunable barium strontium titanate thin film capacitors for RF and microwave applications." 2000 MTT-S International Microwave Symposium Digest 00.3 (2000 Vol. III [MWSYM]): 1345-1348.

In this paper, we report on the fabrication and testing of thin film barium strontium titanate (BST) based capacitors for RF and microwave components. At 7 V DC applied, MOCVD BST parallel plate capacitors yielded 60% (2.4:1) tunability between 45 MHz and 200 MHz. In this frequency range, the dielectric loss tangent was typically 0.004. Measured results for the frequency dependent dielectric permittivity and tunability at large RF voltage amplitudes are presented.

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