Abstracts

Tunable barium strontium titanate thin film capacitors for RF and microwave applications

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The measurement results for thin film barium strontium titanate (BST) based voltage tunable capacitors intended for RF applications are reported. At 9 V DC, BST capacitors fabricated using MOCVD (metalorganic chemical vapor deposition) method achieved 71% (3.4:1) tunability. The measured device quality factor (Q) for BST varactors is comparable with the device Q for commercially available varactor diodes of similar capacitance. The typical dielectric loss tangent was in the range 0.003-0.009 at VHF. Large signal measurement and modeling results for BST thin film capacitors are also presented.

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