# Abstracts

## Design and modeling of RF MEMS tunable capacitors using electro-thermal actuators

*Zhiping Feng, Wenge Zhang, Bingzhi Su, K.F. Harsh, K.C. Gupta, V. Bright and Y.C. Lee. "Design and modeling of RF MEMS tunable capacitors using electro-thermal actuators." 1999 MTT-S International Microwave Symposium Digest 99.4 (1999 Vol. IV [MWSYM]): 1507-1510 vol.4.*

A series mounted MEMS tunable capacitor in a CPW line is reported. An electro-thermal actuator has been used for driving the top plate of the parallel plate capacitor. The MEMS structure is bonded on an alumina substrate using flip-chip technology so that the silicon on the backside of the MEMS can be removed to reduce the RF losses. The lumped-element model of the capacitor up to 40 GHz has been developed based on Y-parameters, which are derived from measured S-parameters. The measured Q-factor is 256 at 1 GHz for a 0.102 pF capacitor and C/sub max//C/sub min/ ratio of the capacitor is about 2:1.

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