Abstracts

MEMS designed for tunable capacitors

H.D. Wu, K.F. Harsh, R.S. Irwin, Wenge Zhang, A.R. Mickelson, Y.C. Lee and J.B. Dobsa. "MEMS designed for tunable capacitors." 1998 MTT-S International Microwave Symposium Digest 98.1 (1998 Vol. I [MWSYM]): 127-129.

A new tunable capacitor based on a standard microelectromechanical systems (MEMS) technology has been demonstrated. Its unique feature was the use of thermal actuators as indirect drives to change air gap from 2 to 0.2 /spl mu/m for high-Q MM-wave capacitors. Such a drive scheme achieved a sub-/spl mu/m controllability. The insertion loss of a polysilicon MEMS capacitor was measured to be -4dB at 40 GHz. Such a loss would have been better than -1 dB if the polysilicon were coated with metal.

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