Abstracts

Digitally controllable variable high-Q MEMS capacitor for RF applications

N. Hoivik, M.A. Michalicek, Y.C. Lee, K.C. Gupta and V.M. Bright. "Digitally controllable variable high-Q MEMS capacitor for RF applications." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 2115-2118 vol.3.

This paper describes the novel design of an electrostatic digitally controllable variable MEMS capacitor constructed using Cronos MUMPS technology and flip-chip technology processing. The capacitor consists of an array of individual plates of equal area, which are connected to the bonding pads by springs of varying width. This creates a cascading snap-down effect when actuated by electrostatic forces. The capacitor has a measured Q-factor of 140 at 750 MHz, and a tuning ratio of 4:1.

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