Abstracts

An electromechanical model for MEMS switches

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This paper presents a new dynamic and parametric model of a capacitive micro-electromechanical switch electro-statically actuated. It is built of elementary electrical equivalent-circuit blocks constructed of voltage-controlled current sources. The model describes the nonlinear mechanical behavior of the membrane movement, which allows the computation or the bridge capacitance. It can be inserted as a model to perform simulations at microwave frequencies. All the switch parameters such as dimensions and materials properties are adjustable.

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