Abstracts

All-metal high-isolation series and series/shunt MEMS switches

J.B. Muldavin and G.M. Rebeiz. "All-metal high-isolation series and series/shunt MEMS switches." 2001 Microwave and Wireless Components Letters 11.9 (Sep. 2001 [MWCL]): 373-375.

This paper presents a novel all-metal series switch with several different pull-down electrode geometries. The switch results in an up-state capacitance of 5-9 fF and an isolation of -25 to -30 d8 at 10 GHz. The fabrication process is completely compatible with the standard capacitive (or dc-contact) shunt switch, A dc-30 GHz series/shunt switch is also presented with an isolation of -60 dB at 5 GHz and -42 dB at 10 GHz. This is the highest isolation switch available to-date. The performance is limited by radiation in the CPW lines and not by the series/shunt switch characteristics. The application areas are in high-isolation switches for basestations and satellite systems.

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