Abstracts

MEM relay for reconfigurable RF circuits

R.E. Mihailovich, M. Kim, J.B. Hacker, E.A. Sovero, J. Studer, J.A. Higgins and J.F. DeNatale. "MEM relay for reconfigurable RF circuits." 2001 Microwave and Wireless Components Letters 11.2 (Feb. 2001 [MWCL]): 53-55.

We describe a microelectromechanical (MEM) relay technology for high-performance reconfigurable RF circuits. This microrelay, fabricated using surface micromachining, is a metal contact relay with electrical isolation between signal and drive lines. This relay provides excellent switching performance over a broad frequency band (insertion loss of 0.1 dB and isolation of 30 dB at 40 GHz), versatility in switch circuit configurations (microstrip and coplanar, shunt and series), and the capability for monolithic integration with high-frequency electronics. In addition, this MEM relay technology has demonstrated yields and lifetimes that are promising for RF circuit implementation.

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