Abstracts

A Reflective Microwave Switch Made of Tl-Ca-Ba-Cu-O for Signal Control Applications

J.S. Martens, V.M. Hietala, T.E. Zipperian, D.S. Ginley, C.P. Tigges and G.K.G. Hohenwarter. "A Reflective Microwave Switch Made of Tl-Ca-Ba-Cu-O for Signal Control Applications." 1991 Microwave and Guided Wave Letters 1.10 (Oct. 1991 [MGWL]): 291-293.

Some high performance control applications in high temperature superconductors (HTS) require switches that can be easily integrated with transmission lines. A microwave switch in Tl-Ca-Ba-Cu-O has been developed based on driving a small bridge, embedded in a transmission line, normal via a current in an external control line. In the on-state, insertion loss was less than 1 dB over the tested range of 0.5- 8.5 GHz. Isolation in the off-state exceeded 30 dB over this frequency range. Response times are on the order of a microsecond, adequate for many microwave/millimeter-wave applications such as switched phase shifters.

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