Abstracts

A ferroelectric tunable microstrip Lange coupler for K-band applications

G. Subramanyam, F.A. Miranda, R.R. Romanofsky, F.W. Van Keuls, C.L. Canedy, S. Aggarval, T. Venkatesan and R. Ramesh. "A ferroelectric tunable microstrip Lange coupler for K-band applications." 2000 MTT-S International Microwave Symposium Digest 00.3 (2000 Vol. III [MWSYM]): 1363-1366.

We report on the modeled and experimentally verified performance of a gold/Ba/sub 0.6/Sr/sub 0.4/TiO/sub 3/ (BSTO) ferroelectric/magnesium oxide (MgO) two-layered microstrip electrically tunable Lange coupler. Tight coupling of 3 dB or higher was obtained over a frequency range of 14 to 19 GHz. The coupled power level was electrically tunable from -11.5 to -5.5 dB at 20 GHz with an applied dc electric field of 1.6 V//spl mu/m. This work demonstrates another advantageous application for ferroelectric thin-films in passive microwave components at K-band frequencies.

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