Abstracts

100 MHz to 20 GHz Monolithic Single-Pole, Two-, Three-, and Four-Throw GaAs PIN Diode Switches

D.D. Heston, D.J. Seymour and D. Zych. "100 MHz to 20 GHz Monolithic Single-Pole, Two-, Three-, and Four-Throw GaAs PIN Diode Switches." 1991 MTT-S International Microwave Symposium Digest 91.2 (1991 Vol. II [MWSYM]): 429-432.

Monolithic GaAs PIN diode single-pole, two-, three-, and four-throw switch circuits provide low noise figure and insertion loss performance over a 2-decade + 1-octave bandwidth. From 100 MHz to 20 GHz, the measured noise figure and insertion loss for the three switch types are less than 1 dB in the through path, with greater than 45 dB of isolation in the off paths. These state-of-the-art results are obtained using a vertical PIN diode process on metallorganic chemical vapor deposition (MOCVD) material. Each of the three PIN diode switch types has been designed with and without on-chip bias networks. This paper compares the performance demonstrated by this family of six single-pole, two-, three-, and four-throw switch circuits.

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