Abstracts

A multioctave bandwidth rat-race singly balanced mixer

Chi-Yang Chang, Chu-Chen Yang and Dow-Chih Niu. "A multioctave bandwidth rat-race singly balanced mixer." 1999 Microwave and Guided Wave Letters 9.1 (Jan. 1999 [MGWL]): 37-39.

In this letter, we describe a broad-band 7.5-46 GHz rat-race ring singly balanced mixer. The rat-race ring consists of an ideal crossover phase inverter and is designed to have a Chebyshev response of order two. The mixer diodes are virtually grounded via a quarter-wavelength low-impedance FCPW (finite ground plane CPW) open circuit stubs. The mixer shows more than 5 times RF bandwidth and dc to 5 GHz IF bandwidth. The circuit is realized using FCPW on 25 mil Al/sub 2/O/sub 3/ substrate.

❑ Return to main document.