Abstracts

A Novel Monolithic Balanced Switching Low Noise Amplifier (1994 Vol. II [MWSYM])

D.C.W. Lo, H. Wang, B.R. Allen, G.S. Dow, S. Chen and M. Biedenbender. "A Novel Monolithic Balanced Switching Low Noise Amplifier (1994 Vol. II [MWSYM])." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 1199-1201.

We report a monolithic novel balanced switching low-noise amplifier for use as a low-noise broadband switch or 180° phase shifter for application in microwave and millimeter wave control circuits, Each arm of the balanced amplifier consists of a two-stage low noise amplifier cascaded with a reflected phase shifter. By controlling the reflected phase shifters, the balanced switching low-noise amplifier exhibits two on states and two off states with an average on-off isolation of > 20 dB within 5 GHz bandwidth. The two on states show an average gain of 7 dB with 180° phase difference from 80 to 100 GHz and an average noise figure of 6 dB from 92 to 96 GHz. These results are best data ever reported for a switch or 180° phase shifter at W-band.

❑ Return to main document.