

75 Word Abstract

Abstract :

RF characteristics of the parasitic vertical NPN bipolar junction transistor (BJT) available in 0.18 μ m foundry deep n-well CMOS technology are reported for the first time. Double balanced RF mixer using vertical NPN BJT shows almost free 1/f noise as well as order of magnitude smaller DC offset with other characteristics comparable with CMOS one and 12dB flat up to the cutoff frequency, opening the possibility of high performance direct conversion receiver implementation in CMOS technology.