ABSTRACT

LARGE TUNING RANGE JUNCTION VARACTOR

Large tuning range junction varactor includes first and second junction capacitors coupled in parallel between first and second varactor terminals. First and second plates of the capacitors are formed by three alternating doped regions in a substrate. The first and third doped regions are of the same type sandwiching the second doped region of the second type. A first input terminal is coupled to the first and third doped regions and a second terminal is coupled to the second doped region. At the interfaces of the doped regions are first and second depletion regions whose width can be varied by varying the voltage across the terminals from zero to full reverse bias.

Fig 4b