

ABSTRACT

INERT-DOMINANT PULSING IN PLASMA PROCESSING

A method for processing substrate in a processing chamber, which has at least one plasma generating source and a gas source for providing process gas into the chamber, is provided. The method includes exciting the plasma generating source with an RF signal having RF frequency. The method further includes pulsing the gas source, using at least a first gas pulsing frequency, such that a first process gas is flowed into the chamber during a first portion of a gas pulsing period and a second process gas is flowed into the chamber during a second portion of the gas pulsing period, which is associated with the first gas pulsing frequency. The second process gas has a lower reactant-gas-to-inert-gas ratio relative to a reactant-gas-to-inert-gas ratio of the first process gas. The second process gas is formed by removing at least a portion of a reactant gas flow from the first process gas.

FIG. 1