

Abstract of the Disclosure

An electromagnetically coupled plasma processing apparatus is arranged so that a microwave sent through a coaxial waveguide 3 is enlarged by a parallel disk waveguide 4 before being radiated from an enlarged coaxial portion 5. The electromagnetically coupled plasma processing apparatus has a loop antenna (3) for passing a high-frequency wave, a cavity resonator (4) for surrounding the loop antenna (3), and a slit (5) in double-layer structure in a position where the cavity resonator (4) faces a plasma. The plasma on the surface of a wafer can uniformly be processed with the effect including: (1) preventing foreign matter from being produced and abnormal discharge because of electrostatic coupling; (2) improving ignitability and stability of a plasma; (3) lowering antenna voltage; and (4) effecting uniform processing by providing an opposed grounding electrode.

This Sheet Has Been Replaced

