

ABSTRACT

A microwave plasma processing apparatus is disclosed that enables fast and easy plasma ignition at the pressure for plasma processing. In the microwave plasma processing apparatus, a plasma ignition facilitating unit is provided to facilitate plasma ignition induced by a microwave. The plasma ignition facilitating unit includes a deuterium lamp that emits vacuum ultraviolet rays, and a transmission window that allows the vacuum ultraviolet rays to penetrate and irradiate a plasma excitation space. The transmission window is a convex lens, and focuses the vacuum ultraviolet rays to enhance ionization of the plasma excitation gas. With such a configuration, it is possible to induce plasma ignition easily and quickly.



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