ABSTRACT OF THE DISCLOSURE

OXYGEN REACTIVE ION ETCH (RIE) PLASMA METHOD FOR REMOVING OXIDIZED ORGANIC RESIDUES FROM SEMICONDUCTOR SUBSTRATES

A Reactive Ion Etch (RIE) plasma method for removing from semiconductor substrates oxidized organic residues such as oxidized photoresist residues, and the Reactive Ion Etch (RIE) plasma which is employed within the Reactive Ion Etch (RIE) plasma method. A semiconductor substrate upon whose surface resides an oxidized organic residue such as an oxidized photoresist residue is provided into a Reactive Ion Etch (RIE) plasma chamber. Also provided into the chamber is a concentration of oxygen and a concentration of moisture. Finally, a radio frequency excitation of sufficient magnitude is provided to the concentration of oxygen and the concentration of moisture to form a plasma. The oxidized organic residue which resides upon the semiconductor substrate is then removed through etching in the Reactive Ion Etch (RIE) plasma. The concentration of moisture may be introduced into the Reactive Ion Etch (RIE) chamber through desorbtion of moisture within and upon the surface of an oxidized photoresist residue residing upon a semiconductor substrate.

(Fig. 1_a)