Nitrogen Depletion Behavior of High-Nitrogen Oxynitride Films After Reoxidation with O2 and N2O treatment

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Abstract

We investigated the nitrogen depletion behavior of high nitrogen oxynitride after O_2 or N_2O reoxidation in a rapid thermal furnace. We observed that the nitrogen concentration decreased in both cases, and the nitrogen distribution moved toward the SiO_2/Si interface when under N_2O reoxidation, however, when under O_2 reoxidation it moved toward the surface of the SiO_2.

Keyword：oxynitride, rapid thermal oxidation, nitrogen depletion, nitrous oxide, reoxidation