

## A Study on Stripping High-Dose Implanted Photo Resist

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According to the state-of-the-art development of the shrinkage DRAM device, dual poly gate structure has been recently introduced into the process integration of world wide memory industry due to the need of high speed and low power. However, in view of wet cleaning a lot of handicap has been newly immersed. In this study shows the difficulties of high dose implanted photo resist stripping in case of the conventional process such as O<sub>2</sub> plasma followed by piranha, HF, SC-1 etc. To overcome the implanted residue issue after cleaning we tried both DI ozone pretreatment and N<sub>2</sub>H<sub>2</sub> gas pretreatment before O<sub>2</sub> plasma PR strip, respectively. Our experiments reveal that photo resist stripping can be easily achieved with either the DI ozone pretreatment or with N<sub>2</sub>H<sub>2</sub> gas pretreatment process. But DI ozone pretreatment method takes a long time over 30minutes so it is not an effective method whereas N<sub>2</sub>H<sub>2</sub> pretreatment takes shorter time comparatively. In conclusion, we will have to find the solution of the most effective stripping of photo resists which are damaged by 1E16 over high dose implantation.