ABSTRACT

PROFILE AND CD UNIFORMITY CONTROL BY PLASMA OXIDATION TREATMENT

A method of forming spacers from a non-silicon oxide, silicon containing spacer layer with horizontal surfaces and sidewall surfaces over a substrate is provided. A plasma oxidation treatment is provided to form a silicon oxide coating over the spacer layer, wherein the silicon oxide coating provides a horizontal coating on the horizontal surfaces and sidewall coatings on the sidewall surfaces of the spacer layer. An anisotropic main etch that selectively etches horizontal surfaces of the spacer layer and silicon oxide coating with respect to sidewall surfaces of the spacer layer and the sidewall coatings of the silicon oxide coating is provided. The spacer layer is etched, wherein the sidewall coatings of the silicon oxide coating protect sidewall surfaces of the spacer layer.

FIG. 1