ABSTRACT

METHOD OF FORMING TRENCH ISOLATION STRUCTURE

There is provided a method for trench isolation structure formation, which produces neither voids nor cracks within a groove. This method comprises the steps of: forming a groove on a surface of a silicon substrate; coating a polysilazane solution; prebaking the coating at a prebaking temperature regulated so that the temperature is raised in a temperature range of 50°C to 400°C over time; curing the coating at a temperature above the maximum prebaking temperature; and polishing and etching the film. The prebaking is carried out while raising the temperature either stepwise in two or more stages or in a monotonically increasing manner.