Abstract

PRODUCTION METHOD FOR SILICON EPITAXIAL WAFER

Provided is a production method for a silicon epitaxial wafer having an IG capability at a level equal to that of a CZ silicon mirror-finished wafer. In the production method for a silicon epitaxial wafer in which silicon single crystal is epitaxially grown on a silicon wafer; a heat treatment of the silicon wafer is performed at a temperature within ± 50℃ of a holding temperature for the first stage heat treatment which is to be firstly effected as a heat treatment in the device fabrication process after the epitaxial growth process for a time period equal to or more than a time period in which a precipitate nucleus from interstitial oxygen in the silicon wafer can grow to a size which survives through the epitaxial growth process, prior to the epitaxial growth process, and thereafter, the epitaxial growth is effected; or a heat treatment of the silicon wafer is performed being kept at a temperature within ± 50℃ of a holding temperature for the first stage heat treatment which is to be at first effected as a heat treatment in the device fabrication process after the epitaxial growth process for a time period equal to or more than a time period in which a precipitate nucleus from interstitial oxygen in the silicon wafer can grow to a size a nucleus of which survives through the epitaxial growth process, in the course

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of raising temperature after start of the epitaxial growth process, and thereafter, a temperature is raised to an epitaxial growth temperature to perform the epitaxial growth.

FIGURE 1

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