ABSTRACT

An epitaxial silicon wafer cut from a silicon single crystal grown by the Czochralski method, and having a diameter of 300 mm or more. In this epitaxial silicon wafer, the time required to cool every part of the silicon single crystal during the growth from 800°C down to 600°C is set to 450 minutes or less, the interstitial oxygen concentration is from 1.5×10^{18} to 2.2×10^{18} atoms/cm^3 (old ASTM standard), the entire surface of the cut silicon wafer is composed of a COP region, and the BMD density in the bulk of the epitaxial wafer after a heat treatment at 1000°C for 16 hours is 1×10^4/cm^2 or less. In this epitaxial silicon wafer, even if the thermal process in a semiconductor device fabrication process is a low temperature thermal process, epitaxial defects do not occur, as well as sufficient gettering capability being obtainable.