ABSTRACT

To provide a quartz glass tool, for silicon wafer heat treatment, having a transparent grooving face, which is free from the deposition of particles of a transition metal element foreign material derived from glass dust or diamond blade produced by breakdown of acute irregularities based on opening of very small concaves and convexes and microcracks, causes no significant change in dimension also in cleaning with hydrofluoric acid, and can maintain a high degree of cleanness even after use of a long period of time, and to provide a process for producing the same. A quartz glass tool for silicon wafer heat treatment, comprising a wafer mounting member having a grooving face formed by machining, characterized in that the whole grooving face of the wafer mounting member is transparent, the surface roughness is 0.03 to 0.3 μm in terms of center line average roughness (Ra) and 0.2 to 3.0 μm in terms of maximum roughness (Rmax), and a change in center line average roughness and maximum roughness after etching with a 5% aqueous hydrogen fluoride solution for 24 hr is not more than 50%. A process for producing a quartz glass tool for silicon wafer heat treatment, comprising roughly machining a wafer mounting member with a diamond blade having a rough particle size, conducting remachining with a diamond blade having a finer particle

size than the above diamond blade, and then subjecting the inside of the groove to firing finishing.