ABSTRACT

ACOUSTIC ASSISTED SINGLE WAFER WET CLEAN FOR SEMICONDUCTOR WAFER PROCESS

A method for cleaning a substrate is provided that includes applying a liquid medium to a surface of the substrate such that the liquid medium substantially covers a portion of the substrate that is being cleaned. One or more transducers are used to generate acoustic energy. The generated acoustic energy is applied to the substrate and the liquid medium meniscus such that the applied acoustic energy to the liquid medium prevents cavitation within the liquid medium. The acoustic energy applied to the substrate provides maximum acoustic wave displacement to acoustic waves introduced into the liquid medium. The acoustic energy introduced into the substrate and the liquid medium enables dislodging of the particle contaminant from the surface of the substrate. The dislodged particle contaminants become entrapped within the liquid medium and are carried away from the surface of the substrate by the liquid medium.

Figure 2A