BEVEL ETCHER WITH VACUUM CHUCK

ABSTRACT

A bevel etcher incorporating a vacuum chuck used for cleaning the bevel edge and for reducing the bending curvature of a semiconductor substrate. The bevel etcher includes a vacuum chuck and a plasma generation unit which energizes process gas into a plasma state. The vacuum chuck includes a chuck body and a support ring. The top surface of the chuck body and inner periphery of the support ring form a vacuum region enclosed by the bottom surface of a substrate mounted on the support ring. A vacuum pump evacuates the vacuum region during operation. The vacuum chuck is operative to hold the substrate in place by the pressure difference between the top and bottom surfaces of the substrate. The pressure difference also generates a bending force to reduce the bending curvature of the substrate.

Figure 1A