Abstract

Single crystal film bulk acoustic resonator, manufacturing method for single crystal film bulk acoustic resonator, and filter

The present disclosure provides a single crystal film bulk acoustic resonator, a manufacturing method for a single crystal film bulk acoustic resonator, and a filter, and relates to the technical field of filters. The method includes: sequentially forming a buffer layer, a piezoelectric layer, and a first electrode that are stacked on a temporary base substrate; forming a first bonding layer on the first electrode; providing a substrate; etching the substrate to form a plurality of first bumps on a surface of the substrate; forming a second bonding layer covering top surfaces of the plurality of first bumps on the surface of the substrate; and bonding the second bonding layer located at the top surfaces of the plurality of first bumps to the first bonding layer. During bonding, the area of the top surfaces of the first bumps can be controlled by etched grooves, so the area of the second bonding layer located at the top surfaces of the first bumps can be controlled, thereby realizing the control of a bonding area. By controlling the bonding area, the balance between the bonding requirement and the bonding reliability is realized.

Figure 10