TITLE OF INVENTION: RESONATOR AND METHOD OF PREPARING A RESONATOR

Abstract

The present application provides a resonator and a method of preparing same, and relates to the field of semiconductor technologies. The method includes: providing a device wafer, wherein the device wafer includes a first substrate and a piezoelectric layer, a bottom electrode, and a first mass loading layer formed in sequence on the first substrate; forming, on the bottom electrode, a sacrificial layer covering the first mass loading layer; forming a supporting layer on one side of the device wafer with the sacrificial layer; forming a second substrate on the supporting layer through a bonding process; removing the first substrate to expose the piezoelectric layer; forming a top electrode and a second mass loading layer in sequence on the piezoelectric layer; and releasing the sacrificial layer to form a cavity between the first mass loading layer and the supporting layer. Therefore, the resonator is correspondingly tuned by controlling a ratio of an area of the first mass loading layer in an effective working region of the resonator to an area of the second mass loading layer in the effective working region of the resonator, thereby manufacturing resonators with different resonant frequencies, effectively avoiding loss caused by tuning with an external element, and ensuring good performance of the resonator.

Fig. 1