

ABSTRACT

The present disclosure provides a resonator and a preparation method therefor, relating to the technical field of resonators. The resonator comprises a substrate, and a first electrode layer, a first piezoelectric layer, and a second electrode layer which are sequentially stacked onto the substrate. The first electrode layer, the first piezoelectric layer, and the second electrode layer form a first overlapping region along the stacking direction. A capacitor stacking layer is arranged on the first piezoelectric layer and located outside the first overlapping region. A passivation layer is arranged above the second electrode layer, and the passivation layer extends above the capacitor stacking layer. This enables the capacitor to be integrated inside the resonator, thereby achieving on-chip directly integrated capacitor, so as to improve the performance of the resonator and the filter. In addition, the passivation layer and the capacitor stack layer are independent from each other. Therefore, the material and thickness of the dielectric layer inside the capacitor stack layer can be preferably selected according to the performance, and can also be flexibly varied according to the requirement.

FIG. 8