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(57) **ABSTRACT**

A bulk acoustic wave resonator device comprises bottom and top electrodes (120, 360). A piezoelectric layer (355) sandwiched therebetween has a thickness in the active resonator area different from the thickness in the surrounding area. A method of manufacturing the device comprises a bonding of a piezoelectric wafer to a carrier wafer and splitting a portion of the piezoelectric wafer by an ion-cut technique. Different thicknesses of the piezoelectric layer in the active area and the surrounding area are achieved by implanting ions at different depths.

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