ABSTRACT OF THE DISCLOSURE

A SAW resonator filter which generates Shear Horizontal type surface acoustic waves includes a piezoelectric substrate, and first and second resonators arranged on the piezoelectric substrate. The first and second resonators include first and second interdigital transducers having electrode fingers, respectively. The first and second interdigital transducers are acoustically coupled to form a filter, and are divided into a plurality of sub-interdigital transducer portions, respectively. By dividing the interdigital transducers to have multiple sub-IDT portions, the effective electromechanical coupling coefficient is reduced, thereby enabling the bandwidth to be made narrower. Further, the improvement in the electrode structure allows for the filter to use a piezoelectric substrate having excellent temperature characteristics, so that it is possible to achieve a SAW resonator filter having a narrow bandwidth and superior temperature characteristics. Moreover, when an edge reflection type SAW resonator filter using SH-type surface acoustic waves is made, it is possible to provide a compact bandpass filter having low insertion loss and excellent selectability.

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