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ABSTRACT OF THE DISCLOSURE

A ladder filter includes a plurality of series arm resonators and a plurality of parallel arm resonators. The series arm resonators are connected in series to form a series arm of a ladder circuit and are located at a first integrated region. Each series arm resonator includes an edge-reflection surface acoustic wave (SAW) resonator which has a piezoelectric material portion and a pair of edges thereof and utilizes a shear horizontal surface acoustic wave to be excited on the piezoelectric material portion. Each of the parallel arm resonators is connected in parallel between the series arm and a ground potential to form a parallel arm of a ladder circuit. Each of the parallel arm resonators includes an edge reflection SAW resonator which has a piezoelectric material portion with a pair of edges thereof and utilizes a shear horizontal surface acoustic wave to be excited on the piezoelectric material portion. The parallel arm resonators include a first group of at least two parallel arm resonators which are located at a second integrated region which is physically isolated from the first integrated region such that the shear horizontal surface acoustic wave excited on the piezoelectric material portion in the first integrated region does not interfere the shear horizontal type surface acoustic wave excited in the second integrated region.

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