

ABSTRACT

The present invention provides a lithium tantalate (LT) single crystal or a lithium niobate (LN) single crystal, which has strong resistance to stress shock or thermal shock, and a surface acoustic wave filter comprising a piezoelectric substrate produced from the single crystal. The lithium tantalate single crystal or lithium niobate single crystal of the invention contains at least one additional element selected from the group consisting of iron, copper, manganese, molybdenum, cobalt, nickel, zinc, carbon, magnesium, titanium, tungsten, indium, tin, rhenium, scandium, rhodium, ruthenium, palladium, silver, platinum, gold, yttrium, neodymium, iridium, germanium, barium, cesium, strontium, gallium, cerium and other transition elements at a ratio of from 0.002wt% or more to 0.1 wt% or less, and has excellent stress shock characteristics and thermal shock characteristics.