ABSTRACT OF THE DISCLOSURE

SURFACE ACOUSTIC WAVE DEVICE AND FILTER USING THE SAME

A surface acoustic wave device includes a piezoelectric substrate having a first surface on which comb-like electrodes are formed, and a second surface, and a support substrate joined to the second surface of the piezoelectric substrate. The piezoelectric substrate is made of lithium tantalite, and the support substrate is made of sapphire. The following expressions being satisfied:

$$T/t < 1/3 \quad (1)$$

$$T/\lambda > 10 \quad (2)$$

where T is a thickness of the piezoelectric substrate, t is a thickness of the support substrate, and λ is a wavelength of a surface acoustic filter propagated along the first surface of the piezoelectric substrate.

Figure 8