

HIGH-ORDER MODE SURFACE ACOUSTIC WAVE DEVICES

Abstract

A high-order mode surface acoustic wave device includes a piezoelectric substrate (11) formed from a LiTaO_3 or LiNbO_3 crystal and an interdigital transducer electrode (12) embedded in a surface of the piezoelectric substrate (11) to use a surface acoustic wave in a high-order mode. Further, the high-order mode surface acoustic wave device may include a film (13) or substrate stacked on the piezoelectric substrate (11), and may include a support substrate (11) and/or a multi-layer film (15) provided in contact with a surface opposite to the surface of the piezoelectric substrate (11) on which the interdigital transducer electrode (12) is provided. The high-order mode surface acoustic wave device may achieve good characteristics and maintain a sufficient mechanical strength even in a high frequency band of 3.8 GHz or greater.

[FIGS. 2(a)-2(f)]