

ABSTRACT

FILM STRUCTURE AND METHOD FOR MANUFACTURING THE SAME

A film structure (10) includes a substrate (11), a piezoelectric film (14) formed on the substrate (11) and containing first composite oxide represented by a composition formula $\text{Pb}(\text{Zr}_{1-x}\text{Ti}_x)\text{O}_3$, and a piezoelectric film (15) formed on the piezoelectric film (14) and containing second composite oxide represented by a composition formula $\text{Pb}(\text{Zr}_{1-y}\text{Ti}_y)\text{O}_3$. In the composition formulae, x satisfies $0.10 < x \leq 0.20$, and y satisfies $0.35 \leq y \leq 0.55$. The piezoelectric film (14) has tensile stress, and the piezoelectric film (15) has compressive stress.

FIG. 1