

ABSTRACT

The present invention relates to the technical field of semiconductor material processing, and in particular to a method for processing a large-size ultrathin high-precision lithium niobate wafer, which comprises steps of slicing, chamfering, grinding 800, blackening, grinding 2000 and polishing, wherein a double-sided grinder is adopted in the steps of grinding 800 and grinding 2000, and a staged slow-pressurization mode is adopted in a grinding pressurization mode at 22 ± 2 °C; a double-sided polishing machine is adopted in the step of polishing, a maximum rotation speed of equipment is 6–10 rpm at 22 ± 2 °C, a polishing solution of SiO₂ is adopted, a specific density is 1.06–1.20, and a staged slow-pressurization mode is adopted in a polishing pressurization mode. Since a slow and gradual pressurization mode is adopted during pressurization, the probability of scratching, chipping, splintering and the like are greatly reduced, and meanwhile, with the additional use of the clamp disclosed herein, the possibility of edge collapse, edge cracking, insufficient grinding and the like can be effectively reduced, the yield of products is greatly increased, and the restriction of semiconductor equipment of manufacturers on products is eliminated.

Fig 1 for publication