

ABSTRACT

METHOD OF PROCESSING SINGLE-CRYSTAL SUBSTRATE

Disclosed herein is a method of processing a single-crystal substrate to divide the single-crystal substrate along a plurality of preset division lines, including a shield tunnel forming step of applying a pulsed laser beam having such a wavelength that permeates through the single-crystal substrate to the single-crystal substrate along the division lines to form shield tunnels, each including a fine hole and an amorphous region shielding the fine hole, in the single-crystal substrate along the division lines, a protective member adhering step of adhering a protective member to the single-crystal substrate before or after the shield tunnel forming step, and a grinding step of holding the protective member on the single-crystal substrate, to which the shield tunnel forming step and the protective member adhering step are performed, on a chuck table of a grinding apparatus, grinding a reverse surface of the single-crystal substrate to bring the single-crystal substrate to a predetermined thickness, and dividing the single-crystal substrate along the division lines along which the shield tunnels have been formed.

(Figure 6C)