

WAFER PROCESSING METHOD

ABSTRACT

Disclosed is a method of processing a wafer formed with a plurality of division lines on a front surface of a single crystal substrate having an off angle and formed with devices in a plurality of regions partitioned by the division lines. The processing method includes: a numerical aperture setting step of setting a numerical aperture (NA) of a focusing lens for focusing a pulsed laser beam so that a value obtained by dividing the numerical aperture (NA) by a refractive index (N) of the single crystal substrate falls within the range from 0.05 to 0.2; and a shield tunnel forming step of applying the pulsed laser beam along the division lines, with a focal point of the pulsed laser beam positioned at a desired position from a back surface of the single crystal substrate, so as to form shield tunnels each composed of a pore and a pore-shielding amorphous portion along the division lines from the focal point positioned inside the single crystal substrate.

(Figure 6C)