

ABSTRACT

SCRIBING WHEEL AND SCRIBING METHOD USING THE SAME

To scribe a sapphire substrate while keeping high quality with a scribing wheel formed of diamond. A scribing wheel wherein along a circumferential part, a cross section along a radial direction is of a V-shape and a ridge is formed in a center of the V-shape, a blade edge part is formed by the ridge and tilt surfaces present on both sides of the ridge, and at least the blade edge part is formed of diamond. In the ridge part of the entire circumference, grooves 15 are formed such that the length of each of the grooves is set to 9 to 12 μm , the length of a ridge between any adjacent two of the grooves is set to 5 to 9 μm , and the depth of each of the grooves is set to 1.5 to 4 μm . Scribing a thin sapphire substrate using the scribing wheel makes it possible to obtain a cross section having few crevasses even after breaking such a thin sapphire substrate.

(Figure 2)