



WAFER DICING & GROOVING

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FEATURES OF PERFORMANCE

DICING (abrasive cutting / separation) of wafers and substrates out of following materials:

- Al₂O₃ for thick and thin film technology
- Aluminium nitride, Zirconia
- PTC, LTCC, Hybride, PCBs
- Quartz glass, Sapphire
- Silicon (including optical filter coatings)

GROOVING (surface patterning)

Besides severing of the mostly hard and brittle materials named above a precise generating of notches and chamfers is also possible.

TYPICAL APPLICATIONS

- thinning and separation of IR filter components
- chamfer and sever semiconductor devices (optoelectronic components, LEDs)
- processing of ceramic single components (dimensions ≤ 10 x 10 mm²) in combination with laser processing
- patterning of quartz glass elements
- dicing of imprinted multilayered ceramics (LTCC)
- separation of piezo ceramics for transducer or fine positioning

POSSIBILITIES OF PROCESSING

- wafers up to Ø 8" (203 mm) or max. 250 x 250 mm² (without processing frame)
- typical blade thickness: 100 – 400 µm (others possible on request)
- max. substrate thickness 10 mm
- typical cutting depth: up to 3,0 mm
- variable blade cooling (piped water / distilled water / glycol)

TOLERANCES

- position accuracy of x-axis and z-axis (cutting depth): 1 µm
- index accuracy of y-axis: 0,1 µm
- theta-axis: area 0 – 380°; increment = 0,1°
- integrated optical kerf control with detection of edge quality (automatical kerf check)
- control of blade abrasion automatical (non contact set up)
- automatical orientation system and pattern recognition by high-definition CCD camera
- approachable edge quality: chipping < 5 µm at Al₂O₃