

Diamond SAWING



LPT also offers diamond sawing services in addition to laser scribing and machining. Diamond sawing produces edges of superior quality and high precision for applications such as wrap-around printing. Diamond sawing is also the best way to cut substrate arrays into very small parts. We use various blade compositions, blade widths and diamond grit sizes for cutting different materials to optimize cut quality and minimize chipping & pull-outs, therefore obtaining high yields. LPT's state-of-the-art diamond sawing capabilities offer an economical solution for the most stringent design requirements.



A BROAD RANGE OF MATERIALS CAN BE HANDLED; FOR EXAMPLE:

- Alumina
- Aluminum nitride
- Beryllium oxide
- Green ceramic
- Ferrite
- Sapphire
- Quartz
- Lithium niobate
- Silicon
- Others

EQUIPMENT CAPABILITIES

- Table Travel: 6.2"
- Effective cut length: 5.0" X 5.0"
- Accuracy and repeatability: ± 0.0001 " (2.5 microns)
- Optics resolution: ± 0.0001 " (2.5 microns)
- Blade diameter: 4.6"
- Smallest part size: .020" X .020" X .010"
- Substrate thickness: .005" to .200"
- Kerf widths: .004" to .020"
- Mounting of parts: wax, adhesive or UV tape
- De-ionized water wash

STANDARD TOLERANCES

- $\pm .001$ " finished part dimensions
- $\pm .001$ " squareness and perpendicularity
- $\pm .001$ " alignment from fiducials or internal features
- Kerf width tolerance ± 0.0004 "
- Tighter tolerances are available upon request

SERVICES

- Prototype to high volume production
- Qualification samples at no charge
- Rapid turnaround
- Packaging in waffle packs, custom trays, shrink-wrap or bulk

When applications require a combination of process technologies, LPT's optical alignment systems provide tight tolerance registration from internal features within each substrate. This allows us the option to provide Laser Drilling, Laser Machining and Diamond Sawing on each component.

