CASE STUDY

Nichia, Japan

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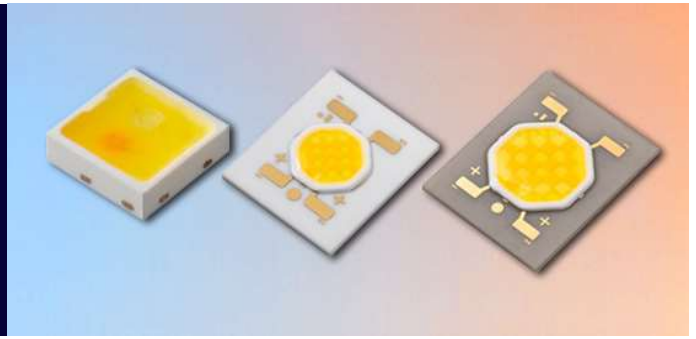
PRODUCT

LED

Nichia is a Japanese chemical engineering and manufacturing company. It specializes in the manufacturing of light-emitting diodes, laser diodes, and other electronic components. Since the introduction of the Blue LED in 1993, Nichia developed the first white LED, followed by the development of blue-violet semiconductor laser.

LMJ used for:
- Cutting for the production engineering group



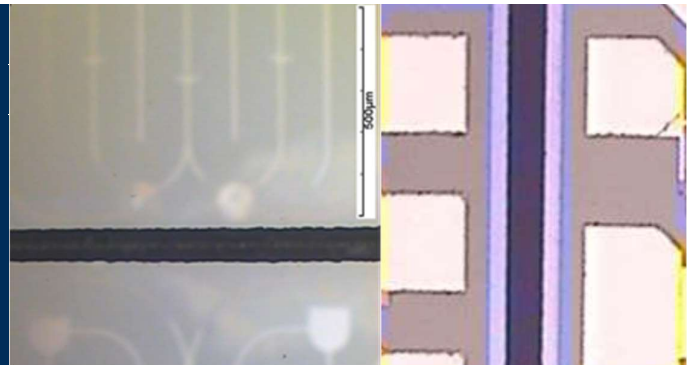
CHALLENGE

Perfect cut on brittle materials

LED chips and packages are made of materials that are frequently difficult to cut mechanically.

Main processing criteria:
- No contamination
- No HAZ
- No deformation
- No burrs
- No taper
- High accuracy

Machining technologies able to reach these criteria:
- Diamond blade saw
- Laser MicroJet (LMJ)



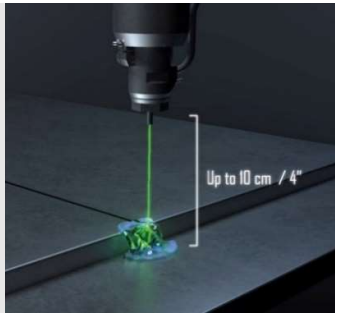
SOLUTION

No HAZ, high flexibility

LMJ advantages versus diamond blade:
- No mechanical stress
- No chipping or micro cracks
- High flexibility regarding materials
- High flexibility regarding shapes

Installed machine type:
- 1 x LCS 300
- 100 W green laser

LCS 300



Sources: Nichia websites, Synova