

A Decade of Excellence in Laser Micromachining Innovation

Founded in 2011, Hi-Nano has been committed to the development and application of laser micromachining technology for over a decade. Despite our relatively young age, our accomplishments have garnered a commendable reputation within various industries. We take pride in the fact that our dedicated efforts have made significant contributions to clients in IC 2.5D and 3D packaging, Optoelectronics, AR/VR, MEMS, and emerging fields such as 5G, 6G, and green energy.



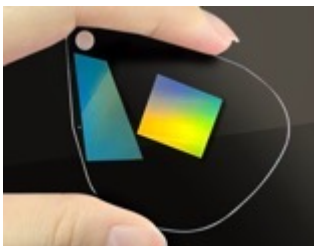
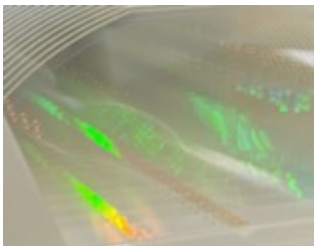
Location:
Yilan Science Park, Taiwan



Hi-Nano Optoelectronics Co., Ltd.

Laser Micromachining Innovations

At Hi-Nano, our core technology revolves around laser micromachining, a versatile solution that forms the foundation for a myriad of applications.



Highlighted Expertise:

1. *Nanostructured Glass Wafer Cutting*
2. *Glass Cutting and Hole Drilling*
3. **TGV** (Through Glass Vias) and **Glass Core** Technology
4. *Flawless Cutting Technology for Coated Optical Lenses*
5. *Laser Machining Technology for Sintered SiC*
6. *Advanced Laser Dicing Technology for 3rd Gen. Semiconductor Wafers (SiC)*
7. *Laser Micromachining of Electronics Ceramic Substrates*
8. *Innovating IC Vertical Probe Card Technology*
9. *Laser Machining for Silicon Wafers Inaccessible to Diamond Saws*
10. *Laser Processing of CVD Diamonds*

Hi-Nano's laser micromachining expertise transcends boundaries, enabling precise solutions for diverse applications. From cutting-edge semiconductor technologies to intricate glass structures and CVD diamonds, our innovations underscore the versatility and efficiency of laser micromachining in driving advancements across industries.

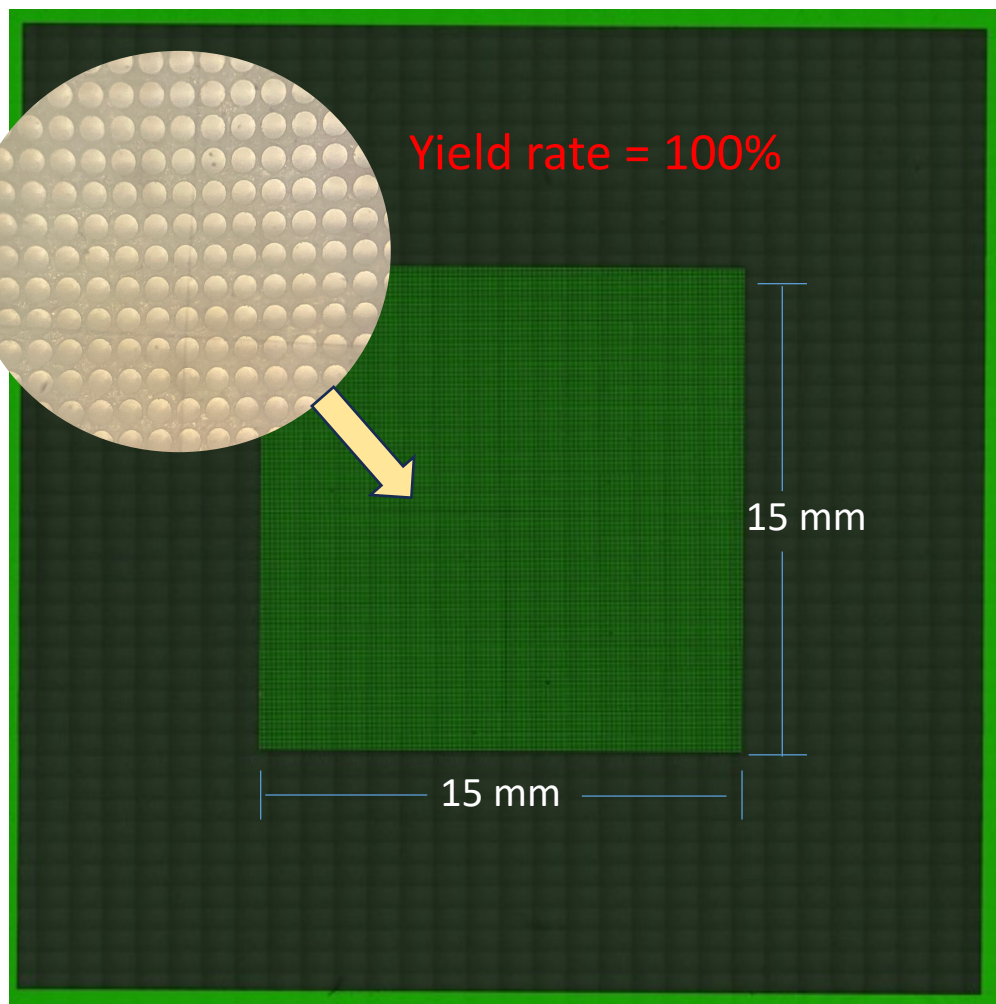


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TGV and Glass Core Technology

1. Precision Beyond Limits:

Explore Hi-Nano's groundbreaking Technology Through Glass Vias (TGV) and Glass Core, setting new standards in precision and quality. Our hole drilling technology achieves diameters as small as 20 micrometers, catering to glass substrates with thickness ranging from 10 μm to 1000 μm .



21,000+ Micron Holes in 15x15 mm:
100% Yield, Mature Stability for Mass
Production

Material : Corning EXG
Diameter: 60 μm
Aspect ratio: 1: 20
Thickness: ~ 1000 μm



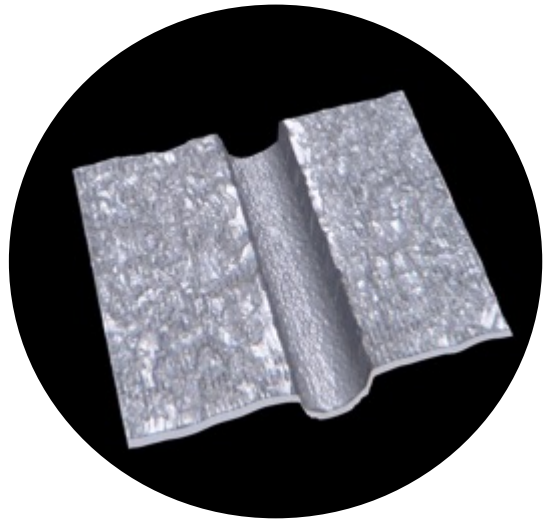
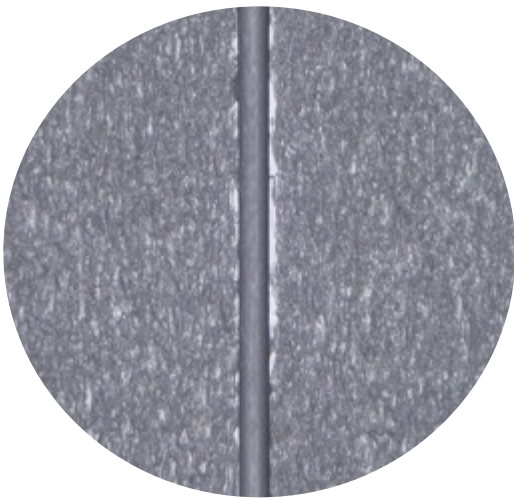
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TGV Showroom:

Precision in Every Detail

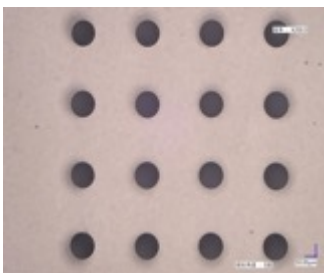
2. Aspect Ratios are exceeding the expectation of the market:

Hi-Nano is pushing boundaries. While the market averages at 1:10, our aspect ratios soar to an impressive 1:20. This remarkable achievement ensures that our glass hole drilling technology meets and exceeds all market requirements, positioning us as pioneers in the industry.

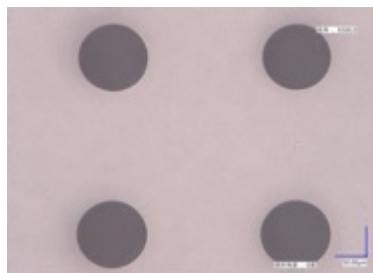


3. Ready for the Future:

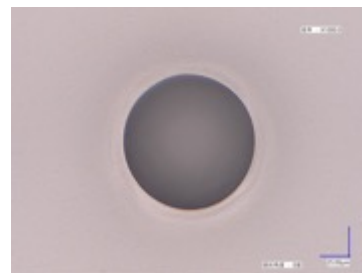
Hi-Nano is at the forefront of innovation, ready to serve customers seeking the next generation of glass substrates. Our TGV and Glass Core Technology are foundations for advanced IC 3D packaging, providing the precision and quality demanded by cutting-edge technology.



200X



500X



1000X

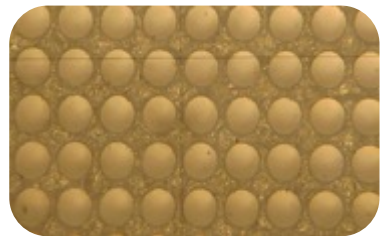
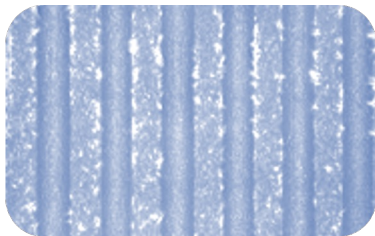


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TGV and Glass Core Applications

4. Glass Core for AI and High-Frequency Communication:

Elevate your AI and high-frequency communication systems with Hi-Nano's Glass Core Technology. With our solutions on glass core in accuracy and quality, we ensure your systems operate at the highest level of efficiency.



Services & Products

Our services and products are designed to streamline your micromachining journey, offering excellent solutions that redefine possibilities.

1. Jobshop Services:

Benefit from our expertise and cutting-edge laser systems. Hi-Nano's job shop services guide you seamlessly from new product experiments to mass production, reducing investment and time. Mitigate risks, shorten time to market, and confidently navigate micromachining challenges



2. Customized Laser Systems:

Elevate your capabilities with Hi-Nano's high-precision laser systems. Our experienced engineering team crafts solutions tailored to your requirements, ensuring peak performance in materials processing, semiconductor equipment manufacturing, and automation. Experience precision redefined.





Our location:

Nestled within [Yilan Science Park](#) in the northeastern region of Taiwan, our surroundings are embraced by mountains on three sides, while the other side opens up to the vast expanse of the Pacific Ocean. This green haven boasts clean air, creating an ideal environment for innovation and supporting pollution-free high-tech industries.

Effortless Accessibility:

Despite its countryside charm, our location is easily accessible.
[Just a 40-minute drive from Taipei-101](#)
and [less than 2 hours from Taoyuan International Airport](#),

Yilan Science Park seamlessly combines the convenience of transportation with the serenity of nature.

Contact Information:



Hi-Nano Optoelectronics Co., Ltd.