

FINEPLACER® lambda

Flexible Sub- micron Die Bonder



FINEPLACER® lambda

The FINEPLACER® lambda is a flexible sub- micron bonder used for precise placement, die attach and advanced packaging. The system offers outstanding flexibility with a modular design and can be easily reconfigured for different applications.

The system offers outstanding flexibility with a modular design and can be easily reconfigured for different applications. It is the ideal choice for low volume production, prototyping, education and R&D where process flexibility is the key.

This cost- effective die bonder handles a wide range of sophisticated processes, including Indium bonding as well as extremely sensitive materials such as GaAs or GaP.

Highlights

- Sub- micron placement accuracy
- Unique optical resolution
- Handles ultra small components
- Special tools allow object sizes down to 5 μm *
- Supported substrate size up to 6" *
- Closed loop force control*
- Small footprint and compact design
- Optics movement with programmable positions

* depending on configuration and application

Features

- Automated processes
- Overlay vision alignment system (VAS) with fixed beam splitter
- Robust construction and modular design
- Integrated Process Management (IPM)
- Real time process observation camera
- Adaptive process library
- Process transfer from system to system
- Virtually unlimited range of advanced bonding technologies

Benefits

- Hands- off die placement, user independent process operation
- Outstanding placement accuracy and instant operation without adjustments
- Provides high level of reproducibility and application flexibility
- Synchronized control of all process related parameters: force, temperature, time, flow, power, process environment, light and vision
- Immediate visual feedback reduces process development time
- Fast and easy process development
- Process transfer from R&D to production saves time, guarantees reliable results
- ROI savings - one machine for all applications

Technologies

- Thermocompression
- Thermosonic
- Ultrasonic
- Soldering (AuSn, C4, Indium, eutectic)
- Adhesive technologies
- Curing (UV, thermal)
- Mechanical assembly

Applications

- Laser diode, laser bar bonding
- VCSEL, photo diode assembly
- LED bonding
- Micro optics assembly
- MEMS packaging
- Sensor packaging
- 3D packaging
- Wafer level packaging (W2W, C2W)
- Chip on glass, chip on flex
- Flip chip (face down)
- Precise die bonding (face up)

Technical Specifications

Placement accuracy:	± 0.5 µm
Field of view (min) ¹ :	0.4 mm x 0.3 mm
Field of view (max) ¹ :	6 mm x 4.5 mm
Component size (min) ¹ :	0.1 mm x 0.1 mm
Component size (max) ¹ :	15 mm x 15 mm
Theta fine travel:	± 5°
Z- travel	10 mm
Working area ¹ :	190 mm x 52 mm
Bonding force range ^{2*} :	0.1 N - 400 N
Heating temperature (max) ^{1,2*} :	400 °C

Modules & Options

- Bonding Force Module (manual)
- Bonding Force Module (automatic)
- Chip Heating Module
- Die Flip Module
- Die Pick- up Module
- Dispenser Module
- Formic Acid Module
- Optics Shifting
- Process Gas Module
- Process Video Module
- Substrate Heating Module
- Ultrasonic Module
- UV Curing Module