

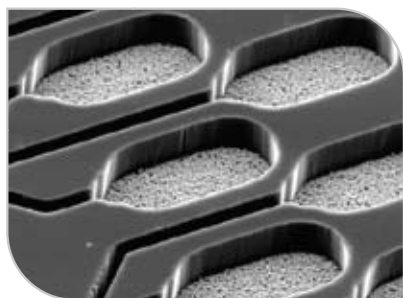
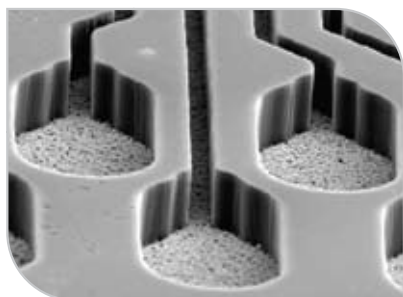
Ultra 80

Paragon™ Ultra 80



Paragon™ Ultra 80

Flip-Chip CSP manufacturing with Orbotech's market-proven Laser Direct Imaging (LDI) increases accuracy and ensures higher yields with the **Paragon-Ultra 80**. It is suitable for FC-CSP applications in a Semi-Additive Process (SAP), or modified versions of SAP, as well as other processes. Now you can enjoy all the benefits of LDI, and achieve higher yields with a simplified process.



Benefits

- Minimum feature size of 15 μ m and minimum pitch of 40 μ m to enable FC-CSP manufacturing on a SAP or modified versions of SAP
- Superior accuracy for tighter annular rings
- Works with conventional UV resists
- Several scaling modes to best suit your process
- Intuitive and user friendly interface for fast and easy set-up
- Automation ready





Feature size and pitch

Suitable for your next generation FC-CSP requirements

- Minimum feature size = 15µm
- Minimum pitch = 40µm
- Tested in production on modified versions of SAP

Ease-of-use

- Uses conventional resists - no need for special LDI resists
- Intuitive and user friendly interface for fast and easy set-up
- Recognizes a wide array of different target types
- Option for target generation with integrated UV marker system

Registration accuracy

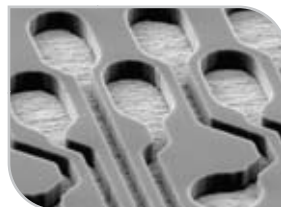
- Side-to-side registration: maximum accuracy of 10µm for inner layers
- Annular ring: with superior accuracy, smaller landing pads can be imaged

Dynamic scaling

- Adjustment per panel: each individual panel can be scaled according to its distortion
- Different scale factors in one panel: a panel can be subdivided for scaling purposes
- User feedback: results of each image can be used to improve future image results

Automation Ready

- Maximum choice of automation vendor
- Maximum flexibility in configuration choice – stand-alone, in-line, or robotic system
- Maximum support from Orbotech's global team of service engineers



Specifications:

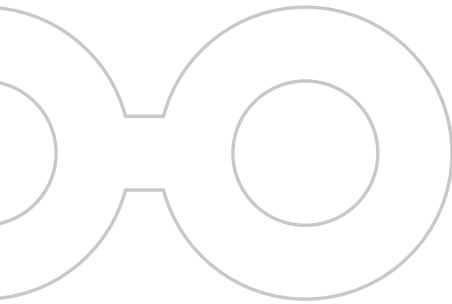
Laser Source	8W DPSS 355nm
Maximum Substrate Size	558mm x 660mm
Maximum Image Size	508mm x 610mm
Substrate Thickness	0.05mm to 3mm
Data Resolution	1 μ m (25,400DPI)
Minimum Pitch*	40 μ m
Minimum Feature Size*	15 μ m
Edge Roughness (3 σ)**	\pm 1 μ m
Registration Accuracy (FTG)**	\pm 5 μ m
Side to Side Registration (3 σ)**	10 μ m
Cycle Time @ different energy settings (500 x 400mm, 4 symmetrical targets, 6sec load/unload)	10mJ/cm ² - 30 panels / hour 100mJ/cm ² - 30 panels / hour 120mJ/cm ² - 23 panels / hour
Exposure Energy Range	10-2200mJ/cm ²

* Depends on dry film properties and process capabilities

** All values are 3 σ , full format, 4-target-registration

Notes:

- Paragon-Ultra 80 LDI system is a class 1 laser product.
- Laser specification: UV Diode Pump solid state laser, 355nm, 8 Watt max power
- The above specification is subject to change without notification.



PCBB174(E)_0508



WWW.orbotech.com/pcb

Orbotech Ltd.
P.O. Box 215
Yavne 81102
Israel
Tel. (972) 8-942-3533
Fax. (972) 8-942-3966

Orbotech Japan Ltd.
LS Bldg., 1-1-17,
Kami-Osaki Shinagawa-ku,
Tokyo 141-0021
Japan
Tel. (81) 3-3280-1300
Fax. (81) 3-3280-1121

Orbotech Inc.
44 Manning Road
Billerica, MA 01821
U.S.A.
Tel. (978) 667-6037
Fax. (978) 667-9969

Orbotech S.A.
62, Rue de la Fusee
1130 Brussels
Belgium
Tel. (32) 2-727-4811
Fax. (32) 2-727-4848

Orbotech Pacific Ltd.
Room 2206-10
China Resources Bld.
26 Harbour Rd., Wanchai
Hong Kong
Tel. (852) 2827-6688
Fax. (852) 2827-6699