

One Bonder, Multiple Interconnect Solution

ASTERION™ EV

Enhanced Capability Hybrid Wedge Bonder

The Asterion™ EV (Extended Version) Wedge Bonder is built on a reengineered architecture that includes an expanded bond area, new robust pattern recognition capabilities and extremely tight process controls. Together these deliver heightened productivity, bonding quality, and reliability. The enlarged bondable area enhances flexibility and reduces line integration costs. Asterion is driven by a precise new direct-drive motion system that requires minimum maintenance and delivers high repeatability. The graphical editor, multi-segment bonding, global parameter change, and a library of new software features, make programming and optimizing bonding process of complex devices relatively easier.

Key Features

Battery Bonding

- Compensation for height variations between surfaces
- Real-time physical testing with the non-destructive pull tester
- Self-contained/Built-in wire feed dispensing system
- No heat applied, all work done at ambient temperatures

Productivity

- Large bondable area (300 mm x 860 mm) reduces indexing/loading time
- Resistive touchscreen monitor

Performance

- Consistent process results

Configuration Flexibility

- Single platform offering a range of interconnect solutions for Al and Cu wires — Large wire, small wire and PowerRibbon™ with a wide range of bond head selection
- Supports multi-device and multi-lane automated handler

Ease of Use

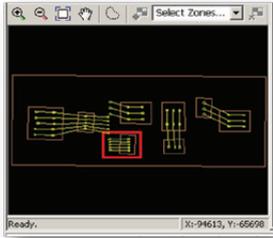
- Intuitive Graphical User Interface (Windows 7 OS)

Maintenance and Reliability - Lower Cost-of-Ownership

- Highly reliable direct-drive XYZT motion system requires no adjustments and less frequent preventive maintenance
- Reduced preventive maintenance requirements on major components



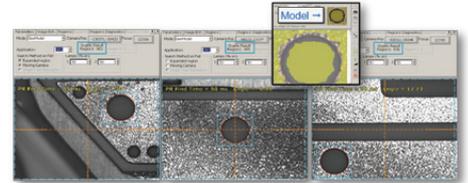
Enhancements



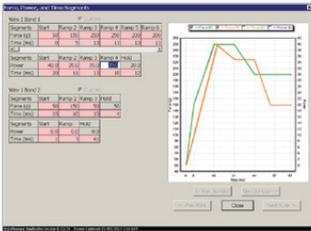
Graphical Editor for convenient program editing



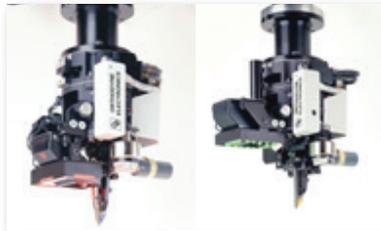
Loop Former option enables advanced square shaped loops profiles



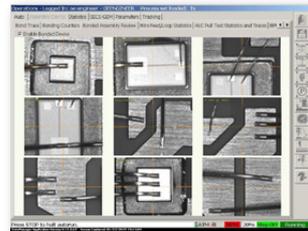
Robust PR (GS4) with Feature Find and Geometric Model modes developed for difficult patterns like direct bonded copper (DBC) substrates



Multi-Segmented Bonding cycle allows precise control and flexibility of the bonding process



Non-Destructive Pulltest gives 100% physical testing of the bonds after they are made which in turn offers real-time quality physical control



Bonded Device Review can capture camera images after bonding a device in Auto and display them for review while bonding the next device

Additional Enhancements

- Light intensity calibration normalizes PR light settings across all machines
- Process programs, stored on a host for control, are available to download to individual bonders
- Process logging for each bond can be stored and accessed offline for traceability
- Consumable tracking and bar code verification capability

Options

- Newly designed Graphical Bond head Set-up aid option (GBS) reduces consumable replacement time & ensures a repeatable set-up
- Bond Process Monitoring option (BPM) helps keep tight control of the bonding process
- SECS-GEM option enables factory automation and communication
- Programmable status light can be programmed for customized conditions

Specifications

General

Power Requirements (Electrical): 180 - 240 VAC, Single Phase, 50/60 Hz, 2.0 kVA
 Nitrogen: Min 275 kPa - Max 1000 kPa, 2-10 L/min (Small wire only)
 Work Height: Adjustable 939 - 985 mm from Floor
 Foot Print:
 With operator panel: 800 (W) x 1971 (D) x 1955 mm (H)
 Whout operator panel: 800 (W) x 1728 (D) x 1955 mm (H)
 Weight: 1015 kg Uncrated without work holder insert
 CE Certification: Standard

Pattern Recognition/Optics/Vision

Vision System: GS4 Pattern Recognition System
 New PR Modes: Feature Find, Single Point with Angle, Geomodel

Motion System

X, Y Axes: Linear motors, 0.1 µm Resolution
 Bond Area: 300 x 860 mm
 Z-Axis: Voice Coil, 0.1 µm Resolution; 50 mm Z-Stroke
 Θ-Axis: Direct Drive; ± 220°, 0.0057° Resolution
 Repeatability: ± 3.0 µm at 3 σ

Interconnect Options

Large Wire - Wire Range: 100 - 500 µm Diameter
 PowerRibbon - In Development

Material Handler

Handler Bay:
 With Insert: 1080 (D) x 424 mm (H)
 Open Bay: 1080 (D) x 583 mm (H)
 Standard Integrated Handlers Available

Non-Destruct Pulltesting

Bondhead Pulltest:
 Large Wire ALC bond head
 Configurable bond head

