

# AB589 Series

## Automatic Wire Bonder

(Rotary Bond Head Platform)



Achieving the most cost effective solution for COB packaging, AB589 Series offer a revolutionary high speed aluminum wedge bonding solution, and 8" x 6" effective bonding area for wide range of applications. Combining with the leading technologies and experiences accumulated, AB589 Series provide you a high speed, and flexible wedge bonding solution with proven quality.

### Application

Standard: Toys, melody, phone, LCM, medical devices, automobile packages, LED light bar / panel, SD card, computer peripheral, etc..

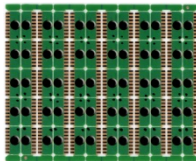
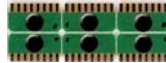
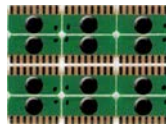
Optional: RF devices, ceramic packages, etc..



## ASM Pacific Technology

<http://www.asmpacific.com>

- High speed wire bonding: 6.5 wires / sec
- Fine pitch capability: 55 x 65 μm
- Equipping patented "PR on the Fly" capability, shorten alignment time
- Latest rotary bond head design enhancing stability and reliability
- Extra large effective bonding area: 8" x 6" (203.2 x 152.4 mm)
- Supporting various workholder design for full range application
- Saving human resources
  - Capable to handle raw PCB, vertical integrating the production material capability of the entire production line
  - Saving time of manual load/unload, simplify the bonding, testing and packaging processes
- AB589-H Automatic material handling capability (option)
- Gold wire wedge bonding capability (option)
- Deep access bonding capability - 45° bonding angle (option)

AB589 Raw PCB Production	Production in Fewer Pieces
 <p><b>Load/ unload: 1</b></p>	 <p><b>Load/ unload: 12</b></p>
	 <p><b>Load/ unload: 6</b></p>

# Specification

## Bond Head System

Z travel limit	15 mm (0.59")
θ limit	± 190°
Al wire diameter	17.8 – 50.8 μm (0.7 – 2.0 mil)
Wire feed angle	30°
Bond head clearance	5 mm (0.20")
Bond force	Programmable (10 – 200 g)
Wire clamping force	Programmable (30 – 200 g)
Bond time	Programmable (0 – 255 ms)
Bond power	Programmable (0 – 1 W)
Loop level	Programmable
Cycle time	155 ms (2 mm wire length)
Placement accuracy	± 10.2 μm (± 0.4 mil)
Wire length range	0.8 – 8.0 mm @ 1.0 mil wire *

## Work Holder System

Effective bonding area	203.2 x 152.4 mm (8" x 6")
Pin length	Max. 30 mm (1.2")

## Auto Handler System (For AB589-H Only)

PCB/ carrier size	
Length	100 – 215 mm (3.9" – 8.5")
Width	25 – 162 mm (1.0" – 6.4")
Thickness	0.8 – 7.5 mm (0.03" – 0.30")
Pin length	Max 30mm (1.2")
Edge width	Min 5mm (0.20")
SMD height on top	Max 3mm (0.12")
SMD height at bottom	Max 3mm (0.12")

Magazine size	
Length	100 – 220 mm (3.9" – 8.7")
Width	30 – 180 mm (1.2" – 7.1")
Height	40 – 190 mm (1.6" – 7.5")
Max height of stacked magazines	360mm (14.2")

## Optics

Optics assembly	4.3X programmable focus
FOV	1.2 x 0.9 mm (47 x 35 mil)

## Pattern Recognition System

Programmable search range	
XY	15 – 47 mil (0.39 – 1.20 mm)
θ	± 45° @ 1° resolution
Alignment reference	
Die & substrate	0 or 2 points (for PR reference)
No. of patterns for PR	400 (64 x 64 standard template @ θ=0°)
Template size	Programmable (64 x 64 – 256 x 256)

## Memory Capacity

No. of programs	
USB disk	> 500 (depends on memory capacity)
Hard disk	1,000
No. of units / program	Max. 256
No. of PCB / unit	Max. 50
No. of dice / unit	Max. 100
No. of LED / program	Max. 1,500
No. of wires / program	Max. 10,000

## Facilities Required

Voltage	115 / 230 Vac
Frequency	50/ 60 Hz
AB589/ AB589-H	
Full-load current	2.5 A @ 230 V
Average power consumption	400 W
Pneumatic system	Min. 5 bar compressed air
Option	Vacuum inlet

## Dimensions & Weight

Standard AB589 (W x D x H)	1,170 x 800 x 2,020 mm (46.1" x 31.5" x 79.5")
Weight	550 kg (1,210 lbs)
Standard AB589-H (W x D x H)	1,650 x 800 x 2,020 mm (65.0" x 31.5" x 79.5")
Weight	650 kg (1,430 lbs)

\*Designs, colors and specifications are subject to change without prior notice  
All performance is package and materials dependent

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