

WIRE BONDING

What We Offer

Design &
Simulation



Prototyping &
Fabrication



Testing &
Characterization



Wire bonding is a critical semiconductor fabrication technique used to establish electrical connections between integrated circuits (ICs) or other semiconductor devices and their package leads or substrates. Utilizing a combination of heat, pressure, and ultrasonic energy (thermosonic bonding), this precise process enables reliable electrical interconnects essential for microelectronic, power, and optoelectronic device packaging.

Key applications

Microelectronic Device Packaging

Laboratory and Prototype Development

Advanced Device Assembly

Wire bonder TPT HB10

- Semi-automatic wire bonder with motorised Z-axis
- Ultrasonic frequency 63.3 kHz
- Ultrasonic power 10 W
- Max. bond force 150 cN
- Bond time 0 – 10 s
- Gold-, aluminum wires (silver-, copper wires upon request):
 - Gold wire $\varnothing$ 50 μm , $\varnothing$ 25 μm
 - Aluminum wire 25 μm
 - Gold ribbon 20 $\times$ 100 μm
- Automatic bond height adjustment
- Electronic wire clamp
- Heater stages: $\varnothing$ 60 mm, 100 $\times$ 100 mm
- Temperature max: 250 $^{\circ}\text{C}$

Contact person:

Dr. Virginijus Bukauskas

Department of Physical Technologies, FTMC
virginijus.bukauskas@ftmc.lt

Wire bonder TPT HB05

- Ultrasonic system – 63.3 kHz transducer PLL control
- Power 0 – 10 W
- Bonding time 0 – 20000 ms
- Bonding force 5 – 200 g
- Wires – gold and aluminum wires (17 – 75 μm)
- Gold ribbon (up to 20 $\times$ 200 μm)
- Wire feed angle 90 $^{\circ}$
- Throat depth 165 mm
- Travel stage – fine table motion 15 mm
- Temperature controller up to 250 $^{\circ}\text{C}$ ($\pm$ 1 $^{\circ}\text{C}$)
- Max component width – 400 mm

Contact person:

Šarūnas Jankauskas

Proto Lab, M-Lab, KTU
sarunas.jankauskas@ktu.lt

Wire bonder TPT HB100

- Automatic wire bonder with motorised Z-Y-X Axes
- Ultrasonic system – 63.3 kHz transducer PLL control
- Power 0 – 10 W
- Bonding time 0 – 5000 ms
- Bonding force 10 – 200 g
- Wires – gold and aluminum wires (17 – 75 μm)
- Gold ribbon (up to 25 $\times$ 250 μm)
- Wire feed angle 90° with 14 mm immersion depth
- Travel stage – Z-Drive travel of 100 mm (0.5 μm resolution) and X-Y Drive travel of 100 mm (0.1 μm resolution)
- Rotation-Drive resolution $\pm 0.5^\circ$
- Temperature controller up to 200 $^\circ\text{C}$ ($\pm 1^\circ\text{C}$)
- Max component width – 400 mm

Contact person:

Šarūnas Jankauskas

Proto Lab, M-Lab, KTU

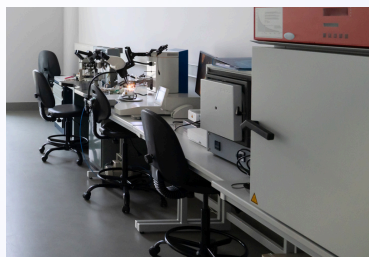
sarunas.jankauskas@ktu.lt

Features:

- Supports different bonding modes - ball, wedge, bump, and ribbon bonding
- Motorized wire spool (50.8 mm) with 90° wire feed angle
- Wire termination via bond head tear or clamp tear
- Different size heater stages ($\varnothing$ 60 mm, 100 $\times$ 100 mm) with temperature up to 250 $^\circ\text{C}$
- Friendly user control through LCD screen

Capabilities:

- Broad material support includes standard gold and aluminum wires, with silver and copper options available on request, in diameters from 17 μm to 75 μm
- Accommodation of diverse gold ribbon sizes, scaling from 20 μm $\times$ 100 μm dimensions up to 25 μm $\times$ 250 μm



If you have any questions, please contact us by email:
info@chipsoc2.it