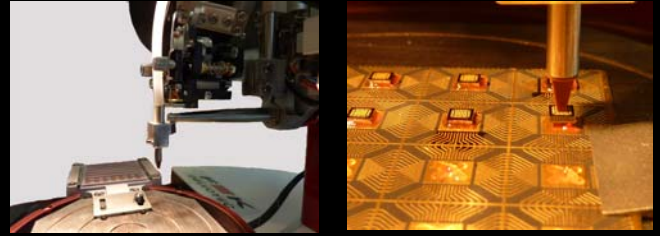


5380

Manual Universal-Die-Bonder

Our manual wirebonder 53XX BDA was already so far very versatile, because it can manufacture both Wedge and Ball bonds with simplest charge. Now a third function is added: the 53XX BDA can also bond DIE's now.

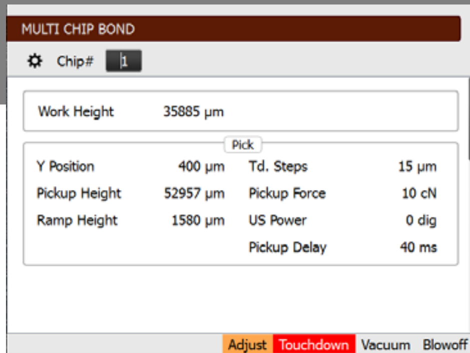
At the Bonder only minimum extensions are necessary in hard and software. Instead of the wire bond tool, an adapter is inserted into the Transducer directly, in order to take up standard tools for chip bonding, so called DIE Collets. On the market they are available in different Shaft diameters, but they all fit into the three planned mounting holes. The chips are delivered in Wafflepacks, which are mounted beside the normal substrate holder.

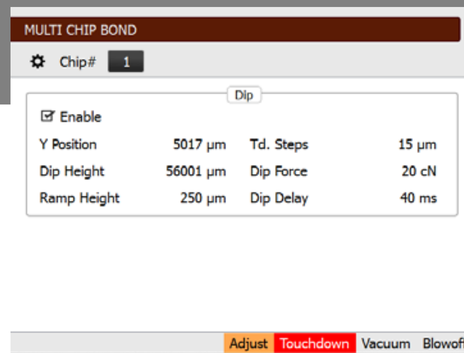
A special software makes the chip bonding just as comfortable on the 53XX BDA as the wire bonding. In the first step one shifts the you have to move the Workholder in such a way that the Wafflepack with the desired DIE comes to be under the DIE-Collet. Just like wire bonding you have to align the chip with the manipulator and the microscope. In the second step you have to drive one with the bond tool on the chip, where a Touchdown is registered and then the vacuum is automatically switched on, in order to pick up the chip. The Touchdown procedure guarantees that the chip with defined force is seized, which is particularly important with sensitive chips.

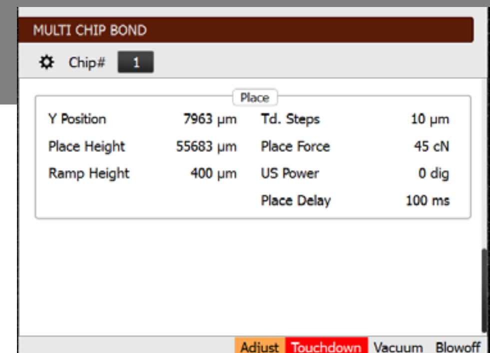
In step three becomes, after the Bondtool with the chip raised, that substrate back under the Bondtool with the chip shifted and again fine-adjusted. The last step is then motorized lowering of the chip, again under control of the Touchdown function and pressing in slightly into the preparatory adhesive bed with defined, programmed bond strength and bond time. At this crucial process step the 53XX BDA is even superior to many fully automatic DIE-Bonders, because its owing to defined bond force and – time also most sensitive chips can be pressed carefully al over in slightly full-laminar, and even different substrate heights can be compensated.

After storage of the chip the vacuum is switched of again automatically and the bond tool is driven into the programmed height. The operator can examine then directly by the microscope the chip placed and the adhesive bed.

It is particularly attractive that the Bonder is changed in just a few short minutes to bonding. If the circuit with the chips placed comes thus hardened from the heater, the Bonder is ready again for the following wire bonding, the chip bond mechanism fits on all newer 53XX BDA wirebonder. For the structure of sample or small numbers of items this is a highly welcome extension, particularly since the bonding is not only economical, but takes place extremely sensitively and, for a manual Bonder, with high accuracy. An according video can be regarded on the homepage of F&S BONDTEC.







Bondsystem

Die-sizes	*different sizes* process-oriented useable
Bondhead	manual Die-Bonding with Touchdown-Detection and programmable Pickup- and Bondforce different Standard-tools useable Bondforcesystem with Voice-Coil contactless electronic Touchdown-Sensor Vacuum and blow-off-gas automatically switched
Chipsource	optional Wafflepacks, Jellypacks or Trays inside the workingarea 2x2" applicable
Substrathandling	manual workholder with Vacuum or manual clamping, quick change
Bondforce	Bondforce programmable from 5 to 500 cN Pickup-force programmable from 5 to 500 cN

Control

Hardware	Single-board PC with Windows OS LCD-Colordisplay 6,5" (640x480 Pixel) quick handling and programming with Shuttle-wheel and button
Operating modes	manual, programmed Productionmode program line-step for

Substrate Handling

Manipulator	in X and Y, working range 18x18 mm stepdown reduction 1:7
Substrate holder	standard 80 mm Ø for parts up to 2"x2" optionally 4"x4" and 95 mm Ø, also with vacuum
Axis	*programmable linear Z-Axis with 60mm range* *Step precision 1µm* *Programmable linear Y-Axis with 25mm range* *Step precision 2µm*

General

Dimensions	Width 630 mm, depth 580 mm; height 400 mm, weight ca. 40 kg
Supplies	100...240 VAC, single-phase, 50/60 Hz, max. 230 VA Ø 6mm standard vacuum tubing

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