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Wire Bonder SOP

Standard Operating Procedure

Revision: 1.0 — Last Updated: Oct.5/2018, Revised by Mohamad Rezaei

Overview

This document will provide a step by step operation procedure for the Wedge bonding. Formal Training is required for all users prior to using the system.

Revision History

#	Revised by:	Date	Modification
1	Grace Li	Nov.22/2010	Initial release.
2	Mohamad Rezaei	Oct. 5/2018	
3			
4			
5			

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Overview

The model K&S 4700 wire bonder is a Wedge-Wedge and Wedge-Ball bonding on the same machine system.

Operation Procedure

1. Startup Procedure

- Sign in on the written logbook and note the comments of the previous users.
- Clip the sample on the sample holder
- Set your workholder to the correct height (about 4.25" is a good starting point)
- Set the bonding parameters as recommended in table- This parameters are for wedge bonding of Au wire

Workholder temperature: **150C**, Tail: **7**

Bonds	Power	Time	Force
1st	5.60	4.5	1.3
2nd	6.20	5.3	1.3

Note: the parameters can be varied with different samples

- Press the power button ON
- Adjust the microscope to focus the sample
- Move the workholder with the device to the first bonding site.
- Set the loop height to 1
- Press and hold the button to bring the bondhead down to 1st search
- Adjust the workholder height so the wedge just touches the lowest bonding surface
- Now set 1st search dial so the wedge is 5 mils (127µm) above the device

Note: Choose your first bond to be higher than the second in case the two different sites are not at equal heights.

- Set loop dial to a proper value. 4 is a good option.
- Release the button and the wedge will move down to make first bond then rise to loop
- Pull the Multi Mouse towards you to the second bonding site (or move the workholder with the device to the second bonding site)

Note: When moving the sample from bonding place 1 to 2 it is extremely important to only move the sample in a straight parallel line with respect to the bonding wedge, in order to keep the wire centered under the wedge. If not, it will escape the bonding wedge once pressure is applied and will not stick. By rotating the sample, this can be assured. So when changing positions always do a "try-run" first.

- If the first bond failed, or the wire was torn apart, shortly hold down the "Reset"-switch. Then try again, possible with slightly changed parameters or at a different (cleaner) spot.
- Press and hold the button in again
- The wedge drops down to 2nd search
- Adjust the dial for 2nd search so the wedge is 5 mils above second bond

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- Release the button and the bondhead moves up to reset

2. Shutdown Procedure

- Turn off the power
- Remove the sample from workholder (Caution: the stage is hot. You can take off your sample later if you can remember).
- Sign out the logbook

Note: Please record the problem and any error on the logbook during your operation.

Contact Information

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