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WIRE BONDING CERTIFICATION 3 DAYS

Course Goals and Objectives

- Develop a functional understanding of the wire bond process
- Provide students with a “hands on” learning experience
- Learn the technical and theoretical considerations of forming a wirebond interconnect
- Review the visual inspection criteria and quality /reliability issues

DAY 1 - CLASSROOM ACTIVITIES (AM Session 0830-1200 hrs)

The Wire Bond Process

Thermosonic Gold Ball Bonding

Wedge bonding

Ribbon bonding

Thermocompression bonding

Deep Access wire bonding

Heavy Gage wirebond processes

Material Properties of the Bonding Wire

Wire Bonding Tools

Selecting the proper tool

Factors that Affect Wire Bonding

Review of Mil Spec Visual Criteria

Source requirements

Afternoon Session in Lab with Operators and Inspectors (see below)

DAY 2 - CLASSROOM ACTIVITIES (AM Session 0830-1015 hrs)

Review and Discussion from Previous Day

Review of Wirebond Defect Photos (wirebonds . . . Good vs. Bad)

Wirebond defects and related materials and process parameters

Die Bonding Processes and their Affect on Wirebonding

Common Cleaning Process Used Prior to Wirebonding

Wire Bond Pull Testing

Destruct Pull Testing and Mil Spec limits

Non-destruct Pull Testing

Ball Shear Testing per the ASTM Test Method

Afternoon Session in Lab with Operators and Inspectors (see below)

DAY 3 - CLASSROOM ACTIVITIES (AM Session 0830-1015 hrs)

Review from Previous Day
Wire Bond Pull Testing
Ball Shear Testing
Wirebond Yield and Reliability Problems
Establishing a Bond Window using Design of Experiments (DOE)

Week in Review
Student Certification Test and Feedback

Afternoon Session in Lab with Operators and Inspectors (see below)

“Hands-On” LAB EXERCISES

Bonder Equipment Set up and Review
Wire Bond Demonstrations
How to Make Good Bonds
Student Wire Bond Exercises...Exploring the Effects of Power, Time, and Force
Pull Testing/Ball Shear Testing
Visual Inspection and Instructor Feedback
Changing Tool and Wire

Student Wire Bond Proficiency Demonstration
Wire Bond Skills Check Off Sheet

Establishing a Bond Window
 Design of Experiments to establish a process window (optional)
 Ongoing process controls

Visual Inspection Exercises
 Stereo Zoom (50X)
 High Power Bond Inspect

Course Fee: \$1800