

Q&A Session for Short Wire Technologies

Date: January 25, 2006

Q: Can you comment on how easy it is to do Engineering Changes on the short wire fixtures?

A: The ECO changes for EC1 fixtures are quite different from conventional, wire-wrapped, hinged open fixtures. The ECO process is quite similar to those used for wireless fixtures, except there are more options. Extra resources are added during the wiring process to accommodate points that need to be added to the future. Typically there are 75 additional resource points wired and 25 unwired points to facilitate the addition of new test points or changes to resources. A document has been created by ECT that describes all change scenarios and how they are accomplished.

Q: What is your experience (or do you have any experience) measuring strain with adoption of lead free solders?

A: To my knowledge, non-of our customers have given us a PCB to test using first leaded and then PB-free solders. The actual process of measuring strain would remain the same regardless of the type of solder used.

Q: BSA: Does 2D take into account board thickness mass as well as the number of layers?

A: The 2D BSA that ECT performs uses material properties of a solid mass FR-4 PCB. The effect of adding in the layering information has a negligible effect.

Q: What type of CAD data do you need?

A: We can utilize any of the major CAD output formats. Nothing special is required.

Q: Are there any efforts to correlate BSA and Strain Gage results with the objective of reducing or eliminating the need for SGA?

A: Direct correlation of the BSA and SGA will be quite difficult because of the inherent differences in the two types of analysis. The BSA is a mathematical model whereas the SGA is direct measurement. The BSA looks at a static moment in time and considers the worst case scenario of a bare board. The SGA is dynamic in that it looks at values taken during the full cycle of test and is generally done with a fully loaded PCB. The concept behind the BSA is to give the designer a full board view before the fixture is built to make necessary modifications. The BSA results then can be used for true hotspot SGA after the fixture is built.

Q: What is the probe force profile for EC1? Is it similar to a standard fixture: ~6.7 oz typical?

A: The EC1 uses the same springs that we use in our POGO-1 and POGO-62 Probes. The EC1-1 probe uses a POGO-1 spring. It comes in a 2, 4, 6, and 8oz. (There is a 10oz. Special). The EC1-72 uses a POGO-62 spring. It comes in a 2, 4, and 6oz spring.

Q: What probe forces are typically used with the 1mm probes?

A: We typically use a 6 ounce spring for 1 mm probes

Q: How is the 2D BSA information, for push down pins locations, etc., transferred from the BSA to the actual board manufacturing build

A: ECT has developed special outputs from our custom fixture design software for the manufacturing equipment. That way the product is built to the model. Manufacturing information for push-finger locations, UUT support locations, top side probe forces, bottom side probe forces, bottom side zeroflex milling supports locations, top side zeroflex milling support locations as well as devices with back-up blocks placed over them are all taken into account when the analysis is run. The outputs reflect the results of all of these noted parameters.