CLAIMS

1. An apparatus for electrically connecting a lead of an integrated circuit (12) device to be tested to a corresponding terminal of a load board (24) at a test site, comprising:

a. a housing (14) having upper and lower surfaces, a first surface approachable by an integrated circuit device under test (12) to be tested and a second surface proximate the load board;

b. a slot extending through said housing from the first surface to the second surface, said slot including parallel spaced apart opposing first and second inner walls thereby defining a space between said first and second inner walls;

c. a contact pin (20) having first and second sidewalls and being slideably receivable in said slot (40), said pin having a first end engagable by the lead and a second end in engagement with the terminal, said pin filling only a portion of said slot thereby leaving a gap between said pin sidewalls and said slot inner walls;

d. a first projection (61, 60, 47, 42, 43, 34) filling a portion of said gap adjacent said first inner wall and a second projection filling a portion of said gap adjacent said second inner wall; said projections providing longitudinal stability for said pin as it is engaged by the device under test and allowing air to provide a dielectric around said projections in said gap.

2. The apparatus of claim 1 wherein said projections extend from said pin toward said inner wall.

3. The apparatus of claim 1 wherein housing includes tubular elastomeric resilient element and wherein said pin includes an arcuate recess for receiving a portion of said resilient element and wherein said projection extends from said pin sidewalls and encompasses at least a portion of said resilient element.

4. The apparatus of claim 1 wherein said projections are a plurality of lands spaced across the pin sidewall.

5. The apparatus of claim 4 wherein said lands are asymmetrically placed on said first side wall relative to said second sidewall.

6. The apparatus of claim 1 wherein said projections are a plurality of lands spaced across the pin inner wall of said slots.

7. The apparatus of claim 1 wherein said projections extend from one or both of said inner walls of said slot toward said pin.

8. The apparatus of claim 1 wherein said pin includes a top and bottom ends and wherein said projections extend adjacent said top and bottom ends.

9. The apparatus of claim 1 wherein said pin includes a top and bottom ends and wherein said projections extend between said top and bottom ends along a curved path.

10. The apparatus of claim 1 wherein said pin includes a top and bottom ends and wherein said projections extend between said top and bottom ends along a curved path and including a land portion partially surrounding said resilient member.

11. The apparatus of claim 1 wherein said pin includes a top and bottom ends and wherein said projections extend between said top and bottom ends along a diagonal path.

12. The apparatus of claim 1 wherein said housing (14) includes a top surface having said slots (40) and wherein said surface adjacent said slots is recessed (31) thereby exposing a portion of said pins to air.

13. The apparatus of claim 1 wherein said contact pin includes an upper portion of predetermined thickness and a lower portion of thickness greater than said predetermined thickness and wherein said slot had upper and lower spaced apart sidewalls, said upper sidewalls being spaced to just

accommodate said upper portion of said pin portion and said lower sidewalls being spaced apart to just accommodate said lower pin portion, so that said pin may slide within said sidewalls.

14. An apparatus for electrically connecting a lead of an integrated circuit (12) device to be tested to a corresponding terminal of a load board (24) at a test site, comprising:

a. a housing (14) having upper and lower surfaces, a first surface approachable by an integrated circuit device under test (12) to be tested and a second surface proximate the load board;

b. a slot extending through said housing from the first surface to the second surface, said slot including parallel spaced apart opposing first and second inner walls thereby defining a space between said first and second inner walls;

c. a contact pin (20) having first and second sidewalls and being slideably receivable in said slot (40), said pin having a first end engagable by the lead and a second end in engagement with the terminal, said pin filling only a portion of said slot thereby leaving a gap between said pin sidewalls and said slot inner walls;

d. a first projection (61, 60, 47, 43, 42, 34) filling a portion of said gap extending from said first inner wall and a second projection filling a portion of said gap extending from said second inner wall; said projections providing longitudinal stability for said pin as it is engaged by the device under test and allowing air to provide a dielectric around said projections in said gap.

15. The apparatus of claim 14 wherein said projections are lands having planar distal surfaces.

16. The apparatus of claim 14 wherein said projections are conical having planar distal surfaces.

17. The apparatus of claim 14 wherein said projections are spherical.

18. The apparatus of claim 17 wherein housing includes tubular elastomeric resilient element and wherein said pin includes an arcuate recess for receiving a portion of said resilient element and wherein said projection extends from said pin sidewalls and encompasses at least a portion of said resilient element; and further including a stabilizer projection.

19. The apparatus of claim 14 wherein said projections are cylindrical and having planar distal surfaces.

20. An apparatus for electrically connecting a lead of an integrated circuit (12) device to be tested to a corresponding terminal of a load board (24) at a test site, comprising:

a. a housing (14) having upper and lower surfaces, a first surface approachable by an integrated circuit device under test (12) to be tested and a second surface proximate the load board;

b. a slot extending through said housing from the first surface to the second surface, said slot including parallel spaced apart opposing first and second inner walls thereby defining a space between said first and second inner walls;

c. a contact pin (20) having first and second sidewalls and being slideably receivable in said slot (40), said pin having a first end engagable by the lead and a second end in engagement with the terminal, said pin filling only a portion of said slot thereby leaving a gap between said pin sidewalls and said slot inner walls;

d. a first projection (61, 60, 47, 43, 42, 34) filling a portion of said gap extending from said first and second pin sidewalls and filling a portion of said gap extending from said second inner wall; said projections providing longitudinal stability for said pin as it is engaged by the device under test and allowing air to provide a dielectric around said projections in said gap.

21. A method of making an integrated circuit test contactor for testing a device under test, the housing having upper and lower surfaces, a first surface approachable by an integrated circuit device under test (12) to be

tested and a second surface proximate the load board; a slot extending through said housing from the first surface to the second surface, said slot including parallel spaced apart opposing first and second inner walls thereby defining a space between said first and second inner walls; a contact pin having first and second sidewalls and being slideably receivable in said slot, said pin having a first end engagable by the lead and a second end in engagement with the terminal, said pin filling only a portion of said slot thereby leaving a gap between said pin sidewalls and said slot inner walls; comprising:

forming a first projection filling a portion of said gap adjacent said first inner wall and a second projection filling a portion of said gap adjacent said second inner wall; allowing air to fill spaces around said projections to provide a dielectric around said projections in said gap.

22. The method of claim 21 wherein said step of forming first and second projections includes forming a projection extending from one or both of said inner walls.

23. The method of claim 21 wherein said step of forming first and second projections includes forming a projection extending from one or both of said sidewalls of said pin.