CLAIMS

1. An electrical interconnect mechanism, comprising:

at least one electrically conductive elastomeric pin fixedly placed onto at least one retainer tab having at least one bendable electrically conductive protrusion extending laterally therefrom, said at least one bendable electrically conductive protrusion being connected to at least one side of said pin so as to replace said at least one elastomeric pin; and

a housing having a catch or recess for removable engagement with said protrusion of said tab so as to guide and locate said at least one elastomeric pin and removably secure it said protrusion in place within said catch or recess of the housing and provide a physical retention of said protrusion with said recess of said housing and an electrical conduit.

2. The mechanism according to claim 1 wherein an electrical connection is formed upon compression of said pin by said electrical conduit.

3. The mechanism according to claim 1 wherein said housing includes a chamfered surface(s) for guiding said pin into said catch or said recess of said housing and having another catch and said retainer tab has another protrusion laterally extending from a side of said tab opposite, said protrusion removably engaging said catch of said housing so that said other protrusion removably engages said catch of said chamfered surface(s) and provide a physical retention and an electrical conduit.

4. The mechanism according to claim 1 wherein said tab is made of metal.

5. The mechanism according to claim 1 wherein said tab is formed as a solid metal ring configured as a slide collar and located around a center of said elastomeric pin.

6. The mechanism according to claim 5 wherein the elastomeric contactor is located on one side of the metal slide collar.

7. The mechanism according to claim 5 wherein the elastomeric contactor is located on one side of the metal slide collar guide with a contact pin on the elastomeric contactor to prevent said contactor from expanding into said catch when said elastomeric contactor is compressed.

8. The mechanism according to claim 5 wherein the elastomeric contactor is located on one side of the metal slide collar guide without a contact pin on the elastomeric contactor.

9. The mechanism according to claim 5 wherein the elastomeric contactor is located on one side of the metal slide collar guide with the metal collar guide having a contact pin on the opposite side.

10. The mechanism according to claim 1 wherein said at least one protrusion is formed as a continuous ring around a perimeter of said pin to provide for multiple conducive connections.

11. An electrical interconnect mechanism, comprising:

at least one electrically conductive elastomeric pin having at least one protrusion extending laterally therefrom, said at least one bendable electrically conductive protrusion being connected to at least one side of said at least one pin; and

a housing having a mechanism for engagement with said protrusion of said tab so as to locate each of the elastomeric pin and removably secure said protrusion within the housing, to guide and locate said at least one elastomeric pin and removably secure said protrusion in place within said catch or recess of the housing and provide a physical retention of said protrusion with said recess of said housing and an electrical conduit so as to replace said at least one elastomeric pin.

12. The mechanism according to claim 11 wherein an electrical connection is formed when said pin is compressed.

13. The mechanism according to claim 11 wherein a retaining mechanism for the elastomer pin is formed as part of the elastomer pin.

14. The mechanism according to claim 11 wherein said retaining mechanism is formed as protrusions extending laterally from each side of said pin to provide a retaining mechanism for removably engaging the retaining tab of the housing so as to replace said at least one elastomeric pin.

15. The mechanism according to claim 13 wherein said housing is provided with one or more chamfered surfaces in its interior wherein said pin is inserted to guide said pin within said housing said chamfer having catches or protrusions for removably engaging said laterally extending protrusions of catches of said pin.

16. The mechanism according to claim 11 wherein the retaining mechanism can be formed as a one piece unit made solely of elastomer material.

17. The mechanism according to claim 11 wherein the elastomer pin is formed to provide a retaining mechanism in a shape of a nail head shape for the elastomer pin and removably engaging laterally protruding tabs or catches for the optionally chamfered surface of the housing so as to removably engage the nail head shaped protrusion of the pin to replace it.

18. The mechanism according to claim 13 wherein the retaining mechanism for the elastomer pin is formed as part of the elastomer pin.

19. The mechanism according to claim 12 wherein the retaining mechanism can be formed as a one piece unit made solely of elastomer material.

20. The mechanism according to claim 1 wherein said protrusions are formed as a continuous ring around a perimeter of said pin.

21. A method for an electrical interconnect mechanism, the steps comprising:

Placing at least one electrically conductive elastomeric pin fixedly placed onto at least one retainer tab having at least one bendable protrusion extending laterally therefrom, said protrusion being connected to at least one side of said pin; and

engaging a housing having a catch or recess for engaging with said protrusion of said tab so as to locate each of the elastomeric pin and removably secure, it within the housing guide and locate said at least one elastomeric pin and removably secure said protrusion in place within said catch or recess of the housing and provide a physical retention of said protrusion with said recess of said housing and an electrical conduit so as to replace said at least one elastomeric pin.

22. The method according to claim 21 the steps further comprising providing at least one chamfered surface(s) as part of said housing, said chamfered surface(s) having another recess and said retainer tab has another protrusion laterally extending from a side of said tab opposite; said protrusion that engages with said catch of said housing; engaging said other protrusion with said catch of said chamfered surface(s) when said elastomeric contactor is compressed.

23. The method according to claim 21 further comprising the step of forming said protrusions as a continuous ring around a perimeter of said pin.

24. A method for an electrical interconnect mechanism, the steps comprising:

Providing at least one electrically conductive elastomeric pin having at least one protrusion extending laterally therefrom; and

Engaging a housing having a mechanism for engagement with said protrusion of said pin so as to locate each of the elastomeric pin and removably secure it within the housing so as to replace said at least one elastomeric pin.

25. The method according to claim 24 further comprising the step of forming the retaining mechanism for the elastomer pin as part of the elastomer pin.

26. The method according to claim 24 further comprising the step of forming said retaining mechanism of said pin, a protrusion extending laterally to provide a retaining mechanism for engaging catches in the housing so as to replace said at least one elastomeric pin.

27. The method according to claim24 wherein the retaining mechanism can be formed as one piece unit made solely of elastomer material.

28. The method according to claim 24 wherein the retaining mechanism can be formed as a one piece unit made solely of elastomer material.

29. The method according to claim 24 wherein the elastomer pin is formed to provide a retaining mechanism in a shape of a nail head shape for the elastomer pin and engaging laterally protruding tabs for the chamfered surface(s) of the housing rather than catches for the chamfered stop of the housing so as to removably engage the nail head shaped protrusion of the pin so as to replace said pin.

30. The method according to claim 24 wherein the retaining mechanism for the elastomer pin is formed as part of the elastomer pin.

31. The method according to claim 24 wherein the retaining mechanism can be formed as a one piece unit made solely of elastomer material.

32. The method according to claim 24 further comprising the step of forming said protrusions formed as a continuous ring around a perimeter of said pin.

33. The method according to claim 24 wherein said housing has a height that can be varied to provide control over an amount of compression of said pin by said house acting as a compression stop.

34. The mechanism according to claim 1 wherein said housing has a predetermined height that controls an amount of compression of said elastomeric pin so that said housing acts as a compression stop.

35. The method according to claim 18 wherein the elastomer pin is formed as two separate pins each has a retaining mechanism in a shape of a nail head shape for the elastomer pin for removably engaging laterally protruding tabs for the tabs of the housing. so as to replace said pins.

36. The apparatus according to claim 1 wherein the elastomer pin is formed as one of two separate pins, the other pin being made of metal, each pin having a retaining mechanism in a shape of a nail head shape for the elastomer pin and the metal pin for engaging laterally positioned catches or protruding tabs for the tabs of the housing.

37. The mechanism according to claim 1 wherein a temporary or permanent adhesive or epoxy or any other bonding agents is applied to one or more of a top and/or a bottom of each compression stop and/or housing and/or BGA stop therefore alleviating a need for a mechanical fastening mechanism or other such fastening mechanisms.

38. An electrical interconnector mechanism, comprising:

At least one electrically conductive elastomeric pin fixedly placed onto at least one electrically conductive disc to provide a removable electrically conductive, compliant connection with an electrical circuit or component for replacing said at least one disc.

39. The mechanism according to claim 38 wherein said disc is not limited to any geometric shape or configuration.

40. A method for an electrical interconnect mechanism, the steps comprising:

Fixedly placing at least one electrically conductive elastomeric pin onto at least one electrically conductive disc by soldering the disc to a pad on said an electrical circuit and thus provide an electrically conductive, complaint removable connection with an electrical circuit or component so as to remove said disc.

CLAIMS

1. An electrical interconnect mechanism, comprising:

at least one electrically conductive elastomeric pin fixedly placed into at least one retainer tab having at least one bendable electrically conductive protrusion extending laterally therefrom, said at least one bendable electrically conductive protrusion being connected to at least one side of said pin; and

a housing having a catch or recess for engagement with said protrusion of said tab so as to guide and locate said at least one elastomeric pin and removably secure said protrusion in place within said catch or recess of the housing and provide a physical retention of said protrusion within said recess of said housing and said tab within said catch or recess of said housing providing an electrical conduit and a retaining mechanism for the elastomeric pin.

2. The mechanism according to claim 1 wherein an electrical connection is formed upon compression of said pin by said electrical conduit.

3. The mechanism according to claim 1 wherein said housing has two interior sides, a first side and another side opposite said first side, each side having catch or recess that each includes a chamfered surface(s) for guiding said pin into said housing and having another catch and said retainer tab has another protrusion laterally extending from a side of said tab opposite said protrusion engaging said catch of said housing so that said other protrusion engages said catch of said chamfered surface(s) and provides a physical retention and an electrical conduit and a retaining mechanism for the elastomeric pin.

4. The mechanism according to claim 1 wherein said tab is made of metal.

5. The mechanism according to claim 1 wherein said tab is formed as a solid metal ring configured as a slide collar and located around a center of said elastomeric pin.

6. The mechanism according to claim 5 wherein the elastomeric contactor is located on one side of the metal slide collar.

7. The mechanism according to claim 5 wherein the elastomeric contactor is located on one side of the metal slide collar guide with a contact pin on the elastomeric contactor.

8. The mechanism according to claim 5 wherein the elastomeric contactor is located on one side of the metal slide collar guide without a contact pin on the elastomeric contactor.

9. The mechanism according to claim 5 wherein the elastomeric contactor is located on one side of the metal slide collar guide with the metal collar guide having a contact pin on the opposite side.

10. The mechanism according to claim 1 wherein said at least one protrusion is formed as a continuous ring around a perimeter of said pin to provide for multiple conductive connections.

11. An electrical interconnect mechanism, comprising:

at least one electrically conductive elastomeric pin having at least one protrusion extending laterally therefrom, said at least one bendable electrically conductive protrusion being connected to at least one side of said pin; and

a housing having a catch or recess for engagement with said protrusion of said tab so as to guide and locate said at least one elastomeric pin and removably secure said protrusion in place within said catch or recess of the housing and provide a physical retention of said protrusion within said recess of said housing and said tab within said catch or recess of said housing providing an electrical conduit and a retaining mechanism for the elastomeric pin.

12. The mechanism according to claim 11 wherein an electrical connection is formed when said pin is compressed.

13. The mechanism according to claim 11 wherein a retaining mechanism for the elastomer pin is formed as part of the elastomer pin.

14. The mechanism according to claim 11 wherein said retaining mechanism is formed as protrusions extending laterally from each side of said pin to provide a retaining mechanism for engaging the retaining tab of the housing.

15. The mechanism according to claim 13 wherein said housing is provided with one or more chamfered surfaces in its interior wherein said pin is inserted to guide said pin within said housing said chamfer having catches or protrusions for removably engaging said laterally extending protrusions of catches of said pin.

16. The mechanism according to claim 11 wherein the retaining mechanism can be formed as a one piece unit made solely of elastomer material.

17. The mechanism according to claim 11 wherein the elastomer pin is formed to provide a retaining mechanism in a shape of a nail head shape for the elastomer pin and engaging laterally protruding tabs or catches for the optionally chamfered surface of the housing so as to engage the nail head shaped protrusion of the pin.

18. The mechanism according to claim 13 wherein the retaining mechanism for the elastomer pin is formed as part of the elastomer pin.

19. The mechanism according to claim 12 wherein the retaining mechanism can be formed as a one piece unit made solely of elastomer material.

20. The mechanism according to claim 1 wherein said protrusions are formed as a continuous ring around a perimeter of said pin.

21. A method for an electrical interconnect mechanism, the steps comprising:

Placing at least one electrically conductive elastomeric pin fixedly placed onto at least one retainer tab having at least one bendable protrusion extending laterally therefrom, said protrusion being connected to at least one side of said pin; and

engaging a housing having a catch or recess for engagement with said protrusion of said tab so as to guide and locate said at least one elastomeric pin and removably secure said protrusion in place within said catch or recess of the housing and provide a physical retention of said protrusion within said recess of said housing and said tab within said catch or recess of said housing providing an electrical conduit and a retaining mechanism for the elastomeric pin.

22. The method according to claim 21 the steps further comprising providing at least one chamfered surface(s) as part of said housing, said chamfered surface(s) having another recess and said retainer tab has another protrusion laterally extending from a side of said tab opposite; said protrusion that engages with said catch of said housing; engaging said other protrusion with said catch of said chamfered surface(s) when said elastomeric contactor is compressed.

23. The method according to claim 21 further comprising the step of forming said protrusions as a continuous ring around a perimeter of said pin.

24. A method for an electrical interconnect mechanism, the steps comprising:

Providing at least one electrically conductive elastomeric pin having at least one protrusion extending laterally therefrom; and

Engaging a housing having a mechanism for engagement with said protrusion of said tab so as to guide and locate said at least one elastomeric pin and removably secure said protrusion in place within said mechanism of the housing and provide a physical retention of said protrusion within said mechanism of said housing providing an electrical conduit and a retaining mechanism for the elastomeric pin with said protrusion of said pin so as to locate each of the elastomeric pin and removably secure it within the housing.

25. The method according to claim 24 further comprising the step of forming the retaining mechanism for the elastomer pin as part of the elastomer pin.

26. The method according to claim 24 further comprising the step of forming said retaining mechanism of said pin, a protrusion extending laterally to provide a retaining mechanism for engaging catches in the housing.

27. The method according to claim 24 wherein the retaining mechanism can be formed as one piece unit made solely of elastomer material.

28. The method according to claim 24 wherein the elastomer pin is formed to provide a retaining mechanism in a shape of a nail head shape for the elastomer pin and engaging laterally protruding tabs for the chamfered surface(s) of the housing rather than catches for the chamfered stop of the housing so as to engage the nail head shaped protrusion of the pin.

29. The method according to claim 24 wherein the retaining mechanism for the elastomer pin is formed as part of the elastomer pin.

30. The method according to claim 24 wherein the retaining mechanism can be formed as a one piece unit made solely of elastomer material.

31. The method according to claim 24 further comprising the step of forming said protrusions formed as a continuous ring around a perimeter of said pin.

32. The method according to claim 24 wherein said housing has a height that can be varied to provide control over an amount of compression of said elastomer pin by said house acting as a compression stop.

33. The mechanism according to claim 1 wherein said housing has a predetermined height that controls an amount of compression of said elastomeric pin so that said housing acts as a compression stop.

34. The method according to claim 18 wherein the elastomer pin is formed as two separate pins each has a retaining mechanism in a shape of a nail head shape for the elastomer pin for engaging laterally protruding tabs for the tabs of the housing..

35. The apparatus according to claim 1 wherein the elastomer pin is formed as one of two separate pins, the other pin being made of metal, each pin having a retaining mechanism in a shape of a nail head shape for the elastomer pin and the metal pin for engaging laterally positioned catches or protruding tabs for the tabs of the housing.

36. The mechanism according to claim 1 wherein a temporary or permanent adhesive or epoxy or any other bonding agents is applied to one or more of a top and/or a bottom of each compression stop and/or housing and/or BGA stop therefore alleviating a need for a mechanical fastening mechanism or other such fastening mechanisms.

37. An electrical interconnector mechanism, comprising:

At least one electrically conductive elastomeric pin fixedly placed into at least one electrically conductive disc to provide a physical retention of said protrusion within said mechanism of said housing providing an electrical conduit and a retaining mechanism for the elastomeric pin with said protrusion of said pin so as to locate each of the elastomeric pin and removably secure it within the housing and electrically conductive, compliant connection with an electrical circuit or component.