

CLAIMS**WHAT IS CLAIMED IS:**

1. A substrate comprising:
 - a first portion of the substrate including a first plurality of metal layers;
 - a second portion of the substrate including a second plurality of metal layers;
 - a plurality of insulating layers configured to separate the first plurality of metal layers and the second plurality of metal layers; and
 - a first plurality of posts and a plurality of interconnects are coupled together such that the first plurality of posts and the plurality of interconnects couple the first portion of the substrate to the second portion of the substrate.
2. The substrate of claim 1, further comprising:
 - a first metal layer of the first plurality of metal layers includes a first plurality of traces embedded in the first portion of the substrate; and
 - a second metal layer of the second plurality of metal layers includes a second plurality of traces embedded in the second portion of the substrate.
3. The substrate of claim 2:
 - wherein the first metal layer is a top layer of the substrate, and the first plurality of traces are configured to couple to a surface mount circuit component; and
 - wherein the second metal layer is a bottom layer of the substrate and the second plurality of traces are configured to couple to another surface mount circuit component.
4. The substrate of claim 2:
 - wherein the first plurality of posts are located on an inner metal layer of the substrate; and
 - wherein the plurality of interconnects are located on another inner metal layer of the substrate.
5. The substrate of claim 1, further comprising:
 - a gap between the first portion of the substrate and the second portion of the substrate; and
 - a mold configured to fill the gap between the first portion of the substrate and the second portion of the substrate.

6. The substrate of claim 4, wherein the plurality of interconnects comprises a plurality of solder interconnects.
7. The substrate of claim 6, wherein the plurality of interconnects are at least partially surrounded by solder resist.
8. The substrate of claim 7, further comprising:
 - a gap between the first plurality of posts; and
 - a mold configured to fill the gap between the first plurality of posts.
9. The substrate of claim 4, wherein the plurality of interconnects comprises a second plurality of posts, wherein the first plurality of posts are over the second plurality of posts.
10. The substrate of claim 9, wherein the first plurality of posts are conductively coupled to the second plurality of posts by a conductive film.
11. The substrate of claim 9, further comprising:
 - a gap between the first portion of the substrate and the second portion of the substrate, the gap also between each one of the first plurality of posts and each one of the second plurality of posts; and
 - a mold configured to fill the gap.
12. The substrate of claim 1, wherein the substrate is incorporated into a device selected from a group consisting of a music player, a video player, an entertainment unit, a navigation device, a communications device, a mobile device, a mobile phone, a smartphone, a personal digital assistant, a fixed location terminal, a tablet computer, a computer, a wearable device, a laptop computer, a server, an internet of things (IoT) device, and a device in an automotive vehicle.
13. A method of fabricating a substrate comprising:
 - forming a first portion of the substrate including forming a first plurality of metal layers;

forming a second portion of the substrate including forming a second plurality of metal layers;

forming a plurality of insulating layers configured to separate the first plurality of metal layers and the second plurality of metal layers; and

forming a first plurality of posts and a plurality of interconnects, and coupling the first plurality of posts to the plurality of interconnects such that the first portion of the substrate and the second portion of the substrate are coupled together.

14. The method of claim 13, further comprising:

forming a first plurality of traces embedded in the first portion of the substrate, the first plurality of traces formed in a first metal layer of the first plurality of metal layers; and

forming a second plurality of traces embedded in the second portion of the substrate, the second plurality of traces formed in a second metal layer of the second plurality of metal layers.

15. The method of claim 14:

wherein the first metal layer is a top layer of the substrate, and the first plurality of traces are configured to couple to a surface mount circuit component; and

wherein the second metal layer is a bottom layer of the substrate and the second plurality of traces are configured to couple to another surface mount circuit component.

16. The method of claim 13, further comprising:

forming a gap between the first portion of the substrate and the second portion of the substrate; and

filling the gap with a mold.

17. The method of claim 15, wherein the plurality of interconnects include a plurality of solder interconnects.

18. The method of claim 17, further comprising surrounding the plurality of interconnects, at least partially, by solder resist.

19. The method of claim 18, wherein the plurality of interconnects comprises a second plurality of posts, wherein the first plurality of posts are over the second plurality of posts.

20. The method of claim 19, wherein the first plurality of posts are conductively coupled to the second plurality of posts by a conductive film.

21. The method of claim 19, further comprising:

forming a gap between the first portion of the substrate and the second portion of the substrate, the gap also between each one of the first plurality of posts and each one of the second plurality of posts; and

filling the gap with a mold.