

CLAIMS

1. A process of fabricating an electromagnetic circuit, the process comprising:
providing a first sheet of dielectric material including a top surface having at least one
conductive trace;
5 depositing a solder bump on the at least one conductive trace;
applying a second sheet of dielectric material to the first sheet of dielectric material with
bond film sandwiched in between, the second sheet of dielectric material having a through-hole
providing access to the solder bump;
bonding the first and second dielectric materials to one another; and
10 removing bond film resin from the solder bump.
2. The process of claim 1, wherein removing bond film resin includes using a
drilling or milling process to remove the bond film resin.
- 15 3. The process of claim 2, wherein using the drilling or milling process to remove
the bond film resin can be a manual procedure or an automated procedure.
4. The process of claim 2, further comprising machining the solder bump by the
drilling or milling process to achieve a desired amount of solder in the solder bump.
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5. The process of claim 1, further comprising securing copper wire to the solder
bump to secure a through-hole component mounted by the copper wire.
6. The process of claim 5, wherein the copper wire is secured to the solder bump by
25 a soldering or reflow process.
7. The process of claim 1, wherein the solder bump includes lead-based or lead-free
solder.
- 30 8. The process of claim 1, wherein the through-hole is created by drilling through
the second dielectric layer.

9. The process of claim 1, wherein bonding the first and second dielectric materials to one another includes curing the dielectric layers under pressure and temperature to form an integral final product.

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10. The process of claim 1, further comprising applying a silver nanoparticle paste to the solder bump.

11. A process of fabricating an electromagnetic circuit, the process comprising:
10 providing a first sheet of dielectric material including a top surface having at least one conductive trace;
depositing a solder bump on the at least one conductive trace;
applying a second sheet of dielectric material to the first sheet of dielectric material, the second sheet of dielectric material having a through-hole providing access to the solder bump;
15 bonding the first and second dielectric materials to one another; and
machining the solder bump to achieve a desired amount of solder in the solder bump.

12. The process of claim 11, wherein machining the solder bump includes using a drilling or milling process to remove portions of the solder bump.

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13. The process of claim 12, wherein using the drilling or milling process to machine the solder bump can be a manual procedure or an automated procedure.

14. The process of claim 12, further comprising removing bond film resin from the
25 solder bump.

15. The process of claim 11, further comprising securing copper wire to the solder bump to secure a through-hole component mounted by the copper wire.

16. The process of claim 15, wherein the copper wire is secured to the solder bump by
30 a soldering or reflow process.

17. The process of claim 11, wherein the solder bump includes lead-based or lead-free solder.

5 18. The process of claim 11, wherein the through-hole is created by drilling through the second dielectric layer.

19. The process of claim 11, wherein bonding the first and second dielectric materials to one another includes curing the dielectric layers under pressure and temperature to form an
10 integral final product.

20. The process of claim 11, further comprising applying a silver nanoparticle paste to the solder bump.

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