CLAIMS

1. A stacked package assembly comprising:

a first die having a front side and a back side;

a die paddle attached to the back side of the first die;

a plurality of wire leads, one end being connected to the front side of the die for connection to an external device;

a mold compound encapsulating the first die and at least a portion of the die paddle;

a land pad cut from the die paddle and supported by the mold compound;

a second plurality of wire leads, one end of the wire leads being connected to the front side of the first die and the other end of the wire leads being connected to the land pad;

a second die stacked over the die paddle; and

a third plurality of wire leads, one end being connected to the second die and the other end being connected to the land pad.

2. The assembly of Claim 1, wherein the die paddle and the land pad are formed of either a copper, an alumina, or a copper alloy.

3. The assembly of Claim 1, wherein the die paddle has a bottom side attached to the back side of the die and a top side, the top side not being covered in mold compound.

3. The assembly of Claim 1, wherein the die paddle is wider than the first die and wherein the land pad is cut from the width of the first die paddle.

4. The assembly of Claim 1, wherein the land pad is external to the first die.

5. The assembly of Claim 1, wherein the land pad is around the complete periphery of the die paddle.

6. The assembly of Claim 1, wherein the land pad has a plurality of solder pads to connect to a respective other end of the wire leads of the second plurality of wire leads.

7. The assembly of Claim 1, wherein the second plurality of wire leads and the third plurality of wire leads connect the first die to the second die through the land pad without connecting to an external device.

8. The assembly of Claim 1, wherein the second die has a front side and a back side, wherein the back side is attached to a second die paddle, wherein the second die is encapsulated in a second mold compound and wherein the second mold compound is attached to the first die paddle.

9. A computing device comprising:

a system board;

a communications package connected to the system board; and

stacked package assembly connected to the system board having a first die having a front side and a back side, a die paddle attached to the back side of the first die, a plurality of wire leads, one end being connected to the front side of the die and the other being connected to the

system board, a mold compound encapsulating the first die and at least a portion of the die paddle, a land pad cut from the die paddle and supported by the mold compound, a second plurality of wire leads, one end of the wire leads being connected to the front side of the first die and the other end of the wire leads being connected to the land pad, a second die stacked over the die paddle, and a third plurality of wire leads, one end being connected to the second die and the other end being connected to the land pad.

10. The computing device of Claim 9, wherein the die paddle has a bottom side attached to the back side of the die and a top side, the top side not being covered in mold compound.

11. The computing device of Claim 9, wherein the die paddle is wider than the first die and wherein the land pad is cut from the width of the first die paddle so that the land pad is external to the first die.

12. The computing device of Claim 9, wherein the land pad has a plurality of solder pads to connect to a respective other end of the wire leads of the second plurality of wire leads.

13. The computing device of Claim 9, wherein the second plurality of wire leads and the third plurality of wire leads connect the first die to the second die through the land pad without connecting to an external device.

14. A method comprising:

attaching a back side of a first die to a die paddle;

connecting a plurality of wire leads to a front side of the die at one end for connection to an external device;

connecting a second plurality of wire leads to the front side of the first die at one end to an edge of the die paddle at the other end;

encapsulating the first die and at least a portion of the die paddle in a mold compound;

cutting a land pad from the die paddle, wherein an edge of the die paddle is a part of the land pad and;

stacking a second die over the die paddle; and

connecting a third plurality of wire leads, one end to the second die and the other end to the land pad.

15. The method of Claim 14, wherein the land pad is supported by the mold compound.

16. The method of Claim 14, wherein the die paddle has a bottom side attached to the back side of the die and a top side, the method further comprising exposing top side of the die paddle from the mold compound before cutting the land pad.

17. The method of Claim 14, wherein the die paddle has a rectangular surface and wherein cutting the land pad comprises cutting the land pad on four sides of the paddle.

18. The method of Claim 1, further comprising applying a plurality of solder pads to the land pad to connect to a respective other end of the wire leads of the second plurality of wire leads.

19. The method of Claim 14, wherein cutting the land pad comprises cutting by laser ablation.

20. The method of Claim 14, wherein the second die has a front side and a back side, the method further comprising attaching the back side to a second die paddle, encapsulating the second die in a second mold compound and attaching the second mold compound to the first die paddle.

CLAIMS

1. A stacked package assembly comprising:

a first die having a front side and a back side;

a die paddle attached to the back side of the first die;

a plurality of wire leads, one end being connected to the front side of the die for connection to an external device;

a mold compound encapsulating the first die and at least a portion of the die paddle;

a land pad cut from the die paddle and supported by the mold compound;

a second plurality of wire leads, one end of the wire leads being connected to the front side of the first die and the other end of the wire leads being connected to the land pad;

a second die stacked over the die paddle; and

a third plurality of wire leads, one end being connected to the second die and the other end being connected to the land pad.

2. The assembly of Claim 1, wherein the die paddle and the land pad are formed of either a copper, an alumina, or a copper alloy.

3. The assembly of Claim 1, wherein the die paddle has a bottom side attached to the back side of the die and a top side, the top side not being covered in mold compound.

3. The assembly of Claim 1, wherein the die paddle is wider than the first die and wherein the land pad is cut from the width of the first die paddle.

4. The assembly of Claim 1, wherein the land pad is external to the first die.

5. The assembly of Claim 1, wherein the land pad is around the complete periphery of the die paddle.

6. The assembly of Claim 1, wherein the land pad has a plurality of solder pads to connect to a respective other end of the wire leads of the second plurality of wire leads.

7. The assembly of Claim 1, wherein the second plurality of wire leads and the third plurality of wire leads connect the first die to the second die through the land pad without connecting to an external device.

8. The assembly of Claim 1, wherein the second die has a front side and a back side, wherein the back side is attached to a second die paddle, wherein the second die is encapsulated in a second mold compound and wherein the second mold compound is attached to the first die paddle.

9. A computing device comprising:

a system board;

a communications package connected to the system board; and

stacked package assembly connected to the system board having a first die having a front side and a back side, a die paddle attached to the back side of the first die, a plurality of wire leads, one end being connected to the front side of the die and the other being connected to the

system board, a mold compound encapsulating the first die and at least a portion of the die paddle, a land pad cut from the die paddle and supported by the mold compound, a second plurality of wire leads, one end of the wire leads being connected to the front side of the first die and the other end of the wire leads being connected to the land pad, a second die stacked over the die paddle, and a third plurality of wire leads, one end being connected to the second die and the other end being connected to the land pad.

10. The computing device of Claim 9, wherein the die paddle has a bottom side attached to the back side of the die and a top side, the top side not being covered in mold compound.

11. The computing device of Claim 9, wherein the die paddle is wider than the first die and wherein the land pad is cut from the width of the first die paddle so that the land pad is external to the first die.

12. The computing device of Claim 9, wherein the land pad has a plurality of solder pads to connect to a respective other end of the wire leads of the second plurality of wire leads.

13. The computing device of Claim 9, wherein the second plurality of wire leads and the third plurality of wire leads connect the first die to the second die through the land pad without connecting to an external device.

14. A method comprising:

attaching a back side of a first die to a die paddle;

connecting a plurality of wire leads to a front side of the die at one end for connection to an external device;

connecting a second plurality of wire leads to the front side of the first die at one end to an edge of the die paddle at the other end;

encapsulating the first die and at least a portion of the die paddle in a mold compound;

cutting a land pad from the die paddle, wherein an edge of the die paddle is a part of the land pad and;

stacking a second die over the die paddle; and

connecting a third plurality of wire leads, one end to the second die and the other end to the land pad.

15. The method of Claim 14, wherein the land pad is supported by the mold compound.

16. The method of Claim 14, wherein the die paddle has a bottom side attached to the back side of the die and a top side, the method further comprising exposing top side of the die paddle from the mold compound before cutting the land pad.

17. The method of Claim 14, wherein the die paddle has a rectangular surface and wherein cutting the land pad comprises cutting the land pad on four sides of the paddle.

18. The method of Claim 1, further comprising applying a plurality of solder pads to the land pad to connect to a respective other end of the wire leads of the second plurality of wire leads.

19. The method of Claim 14, wherein cutting the land pad comprises cutting by laser ablation.

20. The method of Claim 14, wherein the second die has a front side and a back side, the method further comprising attaching the back side to a second die paddle, encapsulating the second die in a second mold compound and attaching the second mold compound to the first die paddle.