CLAIMS

1. A laser diode module, comprising:

a submount having a first top surface, a second top surface, a bottom surface and a plurality of side surfaces including a first side surface, a second side surface and a third surface, wherein the first top surface overlays a first portion of the bottom surface and is offset from the bottom surface by a first thickness and wherein the second top surface overlays a second portion of the bottom surface and is offset from the bottom surface by a second thickness that is less than the first thickness;

a first positive electrode plate mounted to a first portion of the first side surface, wherein the first side surface is substantially orthogonal to the top surfaces and the bottom surface;

a second positive electrode plate mounted to the second side surface, wherein the second side surface is substantially orthogonal to the top surfaces, the bottom surface and the first side surface;

a third positive electrode plate mounted to the first portion of the bottom surface, wherein the first positive electrode plate, the second positive electrode plate and the third positive electrode plate are interconnected electrically;

a first negative electrode plate mounted to a second portion of the first side surface;

a second negative electrode plate mounted to the second top surface;

a third negative electrode plate mounted to the third side surface, wherein the third side surface is substantially parallel to first side surface;

a fourth negative electrode plate mounted to the second portion of the bottom surface, wherein the first negative electrode plate, the second negative electrode plate, the third negative electrode plate and the fourth electrode plate are interconnected electrically; and

a laser diode mounted to the first positive electrode plate on the first side surface and connected to the first negative electrode plate on the first side surface.

2. The laser diode module of claim 1, further comprising:

a thermal pad on a third portion of the bottom surface.

3. The laser diode module of claim 1, wherein the laser diode is connected to the plated second portion of the first side surface via wirebonding.

4. A method for making a laser diode on submount module, the method comprising:

providing a submount with a first top surface, a second top surface, a bottom surface and a plurality of side surfaces including a first side surface, a second side surface and a third side surface, wherein the first top surface overlays the bottom surface and is offset from the bottom surface by a first thickness and wherein the second top surface overlays a second portion of the bottom surface and is offset from the bottom surface by a second thickness that is less than the first thickness;

forming a first positive electrode plate on a first portion of the first side surface, wherein the first side surface is substantially orthogonal to the top surfaces and the bottom surface;

forming a second positive electrode plate the second side surface, wherein the second side surface is substantially orthogonal to the top surfaces, the bottom surface and the first side surface;

forming a third positive electrode plate on the first portion of the bottom surface, wherein the first positive electrode plate, the second positive electrode plate and the third positive electrode plate are interconnected electrically;

forming a first negative electrode plate on a second portion of the first side surface;

forming a second negative electrode plate on the second top surface;

forming a third negative electrode plate on the third side surface, wherein the third side surface is substantially parallel to first side surface;

forming a fourth negative electrode plate on a second portion of the bottom surface, wherein the first negative electrode plate, the second negative electrode plate, the third negative electrode plate and the fourth electrode plate are interconnected electrically;

mounting an laser diode to the first positive electrode plate on the first side surface; and

connecting the laser diode to the first negative electrode plate on the first side surface.

5. The method of claim 4, further comprising:

mounting a thermal pad on a third portion of the bottom surface.

6. The method of claim 4, wherein the laser diode is connected to the first negative electrode plate via wirebonding.

7. A laser diode module, comprising:

a submount having a first top surface, a second top surface, a bottom surface and a side surface, wherein the first top surface overlays a first portion of the bottom surface and is offset from the bottom surface by a first thickness and wherein the second top surface overlays a second portion of the bottom surface and is offset from the bottom surface by a second thickness that is less than the first thickness;

a first positive electrode plate mounted to a first portion of the side surface, wherein the side surface is substantially orthogonal to the top surfaces and the bottom surface;

a second positive electrode plate mounted to the first top surface, wherein the first positive electrode plate and the second positive electrode plate (1320) are interconnected electrically;

a third positive electrode plate mounted to the first portion of the bottom surface, wherein the second positive electrode plate and the third positive electrode plate are electrically interconnected by a through-hole plating;

a first negative electrode plate mounted to a second portion of the side surface;

a second negative electrode plate mounted to the second top surface, wherein the first negative electrode plate and the second negative electrode plate are interconnected electrically;

a third negative electrode plate mounted to the second portion of the bottom surface, wherein the second negative electrode plate and the third negative electrode plate are electrically interconnected by a through-hole plating; and

a laser diode mounted to the first positive electrode plate on the side surface and connected to the first negative electrode plate on the side surface.

8. The laser diode module of claim 7, further comprising:

a thermal pad on a third portion of the bottom surface.

9. The laser diode module of claim 7, wherein the laser diode is connected to the plated second portion of the side surface via wirebonding.

10. A method for making a laser diode on submount module, the method comprising:

providing a submount with a first top surface, a second top surface, a bottom surface and a side surface, wherein the first top surface overlays the bottom surface and is offset from the bottom surface by a first thickness and wherein the

second top surface overlays a second portion of the bottom surface and is offset from the bottom surface by a second thickness that is less than the first thickness;

forming a first positive electrode plate on a first portion of the side surface, wherein the side surface is substantially orthogonal to the top surfaces and the bottom surface;

forming a second positive electrode plate on the first top surface, wherein the first positive electrode plate and the second positive electrode plate are interconnected electrically;

forming a third positive electrode plate on the first portion of the bottom surface, wherein the second positive electrode plate and the third positive electrode plate are electrically interconnected by a through-hole plating;

forming a first negative electrode plate on a second portion of the side surface;

forming a second negative electrode plate on the second top surface, wherein the first negative electrode plate and the second negative electrode plate are interconnected electrically;

forming a third negative electrode plate on a second portion of the bottom surface, wherein the second negative electrode plate and the third negative electrode plate are electrically interconnected by a through-hole plating;

mounting an laser diode to the first positive electrode plate on the side surface; and

connecting the laser diode to the first negative electrode plate on the side surface.

11. The method of claim 10, further comprising:

mounting a thermal pad on a third portion of the bottom surface.

12. The method of claim 10, wherein the laser diode is connected to the first negative electrode plate via wirebonding.