WHAT IS CLAIMED IS:

1. A laser diode surface mounting structure, comprising:

at least one edge-emitting laser diode chip, including two electrodes having an anode and a cathode;

a heat-dissipating plate for carrying one of the two electrodes of the at least one edge-emitting laser diode chip, which comprises a top conductive layer, a bottom conductive layer, and at least one conductive through hole extending from the top conductive layer to the bottom conductive layer for electrical conduction;

two or more metal plates spaced apart from each other and located on a plane, wherein a first metal plate is located under the heat-dissipating plate and in contact with the bottom conductive layer of the heat-dissipating plate, and a second metal plate is located adjacent to and separated from the first metal plate, wherein the second metal plate is electrically connected, via at least one bonding wire, to the other electrode of the two electrodes of the at least one edge-emitting laser diode chip that is not carried by the heat-dissipating plate; and

an insulating frame having an opening and being disposed above the two or more metal plates for holding the two or more metal plates, wherein the opening is provided for passing through laser beams emitted from the at least one edge-emitting laser diode chip, wherein the first metal plate has a cutout at a laser beam outlet end of the at least one edge-emitting laser diode chip for passing through laser light output cone.

2. The laser diode surface mounting structure of claim 1, wherein the at least one bonding wire are two bonding wires which are connected to the other

electrode of the at least one edge emitting laser diode that is not carried by the heat-dissipating plate, and symmetrically distributed on the left side and the right side of the at least one edge-emitting laser diode chip.

3. The laser diode surface mounting structure of claim 1, wherein the at least one edge-emitting laser diode chip is more than one, and the more than one edge-emitting laser diode chips are electrically connected in series, in parallel, or a combination thereof to form a circuit.

4. The laser diode surface mounting structure of claim 1, wherein the material of the heat-dissipating plate is aluminum nitride, aluminum oxide or silicon carbide.

5. The laser diode surface mounting structure of claim 1, wherein the material of the two or more metal plates is copper.

6. The laser diode surface mounting structure of claim 1, wherein the material of the insulating frame is plastic, epoxy or polyoxybenzylmethyleneglycolanhydride.

7. The laser diode surface mounting structure of claim 1, further comprising at least one additional electronic component.

8. The laser diode surface mounting structure of claim 7, wherein the at least one additional electronic component is a photosensitive diode, an electrostatic discharge protection diode, a reverse bias protection diode, a capacitor, a transistor, an integrated circuit, or a surge suppression capacitor, and the at least one additional electronic component is connected to one metal plate which is to be electrically connected to other component of a

circuit, in which the metal plate to which the circuit is connected is held by

the insulating frame.

9. The laser diode surface mounting structure of claim 1, wherein at least one of the two or more metal plates has a flange thereon.

10. The laser diode surface mounting structure of claim 8, wherein the metal plate to which the at least one additional electronic component is connected is provided with a tilted surface at a portion of a third metal plate for carrying the at least one additional electronic component such that a normal vector of a light receiving surface of the at least one additional electronic component forms an angle other than 90 degree with respect to a center line of laser light output cone.

11. The laser diode surface mounting structure of claim 1, further comprising a top cover for covering the insulating frame.

12. The laser diode surface mounting structure of claim 1, wherein each of the two or more metal plates spaced from each other has a bending in order to increase the strength of the insulating frame for holding the metal plates.

13. The laser diode surface mounting structure of claim 1, further comprising an optical component held by the insulating frame.

14. The laser diode surface mounting structure of claim 11, further comprising an optical component held by the top cover.

15. The laser diode surface mounting structure of claim 1, further comprising an optical component held by a bended metal plate.

16. The laser diode surface mounting structure according to claim 13, 14 or 15, wherein the optical component is a lens, a filter, a diffraction grating, a prism, a polarizer, an optical crystal, or a nonlinear optical crystal.

17. The laser diode surface mounting structure of claim 1, further comprising a printed circuit board having a body and a surface conductor layer on the top side of the body, wherein the first metal plate is in contact with the surface conductor layer.

18. A laser diode surface mounting structure, comprising: at least one edge-emitting laser diode chip, including two electrodes having an anode and a cathode; a heat-dissipating plate for carrying one of the two electrodes of the at least one edge-emitting laser diode chip, which comprises a top conductive layer, a bottom conductive layer, and at least one conductive through hole extending from the top conductive layer to the bottom conductive layer for electrical conduction; two or more metal plates spaced apart from each other and located on a plane, wherein a first metal plate is located under the heat-dissipating plate and in contact with the bottom conductive layer of the heat-dissipating plate, and a second metal plate is located adjacent to and separated from the first metal plate, wherein the second metal plate is electrically connected, via at least one bonding wire, to the other electrode of the two electrodes of the at least one edge-emitting laser diode chip that is not carried by the heat-dissipating plate; and an insulating frame having an opening and being disposed above the two or more metal plates for holding the two or more metal plates, wherein the opening is provided for passing through laser beams emitted from the at least one edge-emitting laser diode chip, and wherein at least one

additional electronic component is provided and one metal plate to which the at least one additional electronic component is connected is provided with a tilted surface at a portion thereof, such that a normal vector of a light receiving surface of the at least one additional electronic component forms an angle other than 90 degree with respect to a center line of laser light output cone.